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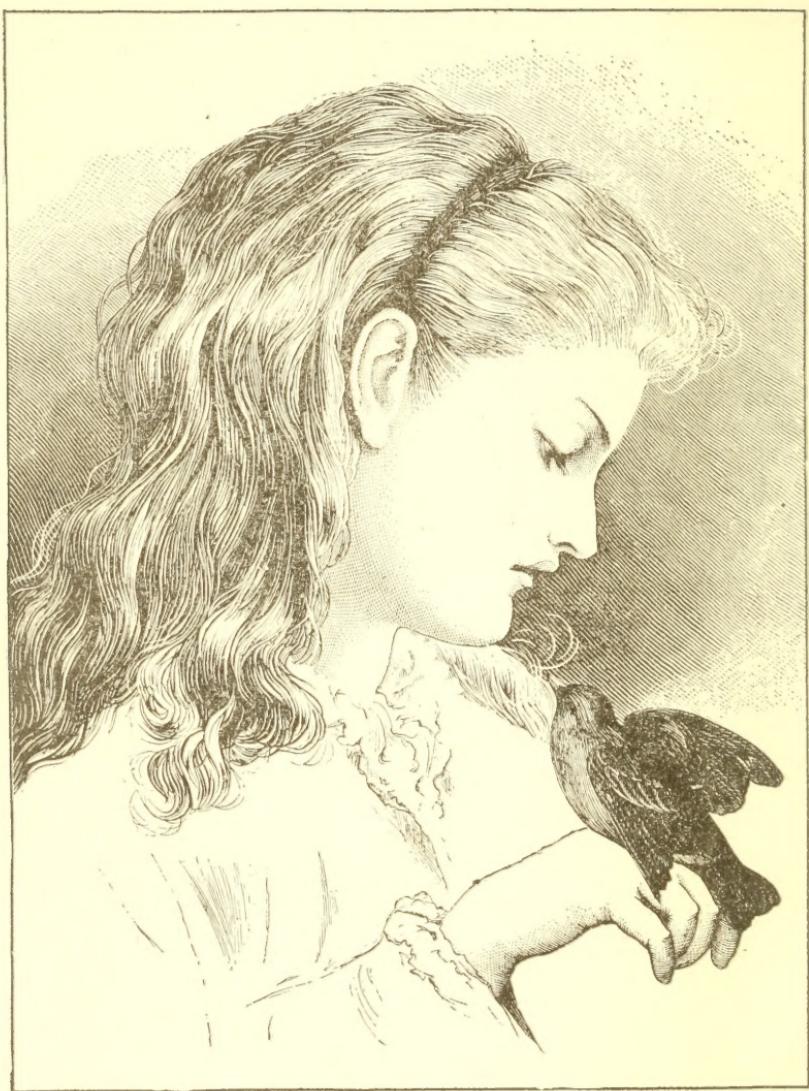
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Household



EARL





PETS OF THE HOUSEHOLD

THEIR

CARE IN HEALTH AND DISEASE

BY

THOMAS M. EARL



WITH ILLUSTRATIONS

A. W. LIVINGSTON'S SONS, PUBLISHERS

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By A. W. LIVINGSTON'S SONS.

PREFACE.

THE publication of this work is due to a constant demand for a popular but reliable treatise on the care of pets. So much misunderstanding prevails in regard to preserving healthy conditions in household pets that it seems apparent that some attention must be given to the acquisition of a knowledge of their needs, if one really values the objects under his charge.

The question "why do my pets die?" so frequently asked, may be readily answered by saying that the conditions requisite for health are not maintained. It may be true that the bereaved owner has bestowed upon them every kindness, but kindness often finds expression in practices which must in the end provoke mischief. Pets are as frequently compelled to suffer from misplaced kindness as they are from neglect, and when persons who are fond of their birds, or their fish, or their dogs learn to know this important fact, the health and pleasing qualities of their favorites will be prolonged.

It is believed that the present work embodies the highest degree of reliable information that its condensed character will warrant, and both professional and amateur fancier will find much in a perusal of its pages to interest and instruct.

THE AUTHOR.



CONTENTS.

CHAPTER I.

	PAGE
CAGE BIRDS—General Observations. Trapping Birds. Bird Cages. Food for Birds. Taming and Training. Diseases of Birds.....	9

CHAPTER II.

CAGE BIRDS—The Canary. German Canary. Belgian Canary. English Canary. Bird-Breeding in America.	22
---	----

CHAPTER III.

CAGE BIRDS—Care of Canaries. Pests. Drinking and Bathing Water. Seed and other Foods. Cuttle-Fish Bone and Gravel. Cayenne Pepper. The Moulting Period.....	29
---	----

CHAPTER IV.

CAGE BIRDS—The Breeding of Canaries. Hybrids.....	38
---	----

CHAPTER V.

CAGE BIRDS—The Diseases of Canaries: Asthma; Costiveness; Loss of Voice; Diarrhoea; Fits, or Convulsions; Inflammation of the Intestines; Cramps and Lame-ness; Accidents	48
---	----

CHAPTER VI.

CAGE BIRDS—European Songsters—I. Seed-eating Birds: Goldfinch; Red Linnet; Bullfinch; Chaffinch. II. Soft-billed Birds: Nightingale; Skylark; Black-cap; Starling	
---	--

CONTENTS.

CHAPTER VII.

CAGE BIRDS—American Songsters—I. Seed-eating Birds: Goldfinch; Indigo Bunting; Nonpareil; Bobolink; Cardinal Grosbeak; Brazilian Cardinal; Rose-breasted Grosbeak. II. Soft-billed Birds: Mocking-bird; Brown Thrasher; Wood Thrush; Cat-bird; Scarlet Tanager; Baltimore Oriole; Orchard Oriole; Troopial.	72
---	----

CHAPTER VIII.

CAGE BIRDS—Talking Pets.—I. Psittacidae: Parrots and Paroquets; Macaws; Cockatoos; Lories.	
II. Corvidae: Raven; Crow; Rooks and Jackdaws; Magpies	95

CHAPTER IX.

CAGE BIRDS—The Aviary. Japanese Robin. Java Sparrow. Finches and Nuns.....	118
--	-----

CHAPTER X.

THE AQUARIUM.—Constructive Principles. Fish Globes. Tanks. Plants. Water. Fish. Feeding the Fish. Placing an Aquarium.....	129
--	-----

CHAPTER XI.

PET QUADRUPEDS.—I. Dogs: Kennels and Beds; Food and Exercise; The Bath; Diseases of Dogs. II. Cats. III. Rabbits and Guinea-pigs. IV. Squirrels.....	145
--	-----

CAGE BIRDS.

CHAPTER I.

GENERAL OBSERVATIONS.

THE love of birds is coexistent with the love of flowers. When Spring awakens by her magic touch the flowers of the woodland, she calls forth, at the same time, from their sunny abodes the winged minstrels of the air, the former to delight us with their beauty and their fragrance, the latter to entrance us with their beauty and their song. As the wanderer in the woods, in search of early flowers, may feel impelled at times to pluck up by the roots some favorite plant, and to place it in his own cultivated garden, so the lover of birds may covet some feathered minstrel for the richness of its plumage, or the excellence of its song. This desire springs from man's love of the beautiful in nature, yet it is to be regretted that we are not always permitted to enjoy the bloom of flowers and the songs of birds in their woodland homes. Our habits in city life render that impossible, and were it not for the transition of birds to city homes, many persons would be unfamiliar with such woodland nymphs.

It is not necessarily an act of cruelty to cage a bird, as many imagine. Most imprisoned birds learn to love their new environs, and become fond of the persons who furnish them with their daily requirements, so much so that if given their choice between imprisonment and freedom, they will choose to return to the cages that have sheltered them, and to the caresses of the hands that have ministered to their wants. The removal, however, of a bird from its natural home, where it has been able to care for its wants instinctively, imposes an important duty upon its possessor. To keep the feathered pet in health and song, one must know, as near as possible, its previous manner of life, and seek to conform in its care to its natural habits. To subject a bird, or other object, to a sudden transition in habits of growth, as well as in surroundings, would be cruel, and would prove, no doubt, a task unrewarded by good results. To imprison a bird in such a way that it is unable to care for itself, to neglect it, and cause it to languish for food or drink, and compel it to exist in an uncleaned cage, is a crime unworthy of ordinary civilization.

If, therefore, one owns a pet, let him provide for its comfort as he would for his own, seeing that its natural habits, as far as possible, are retained, then he may rest assured it will repay him with its

measure of love, and an exhibition of all the gifts that its Creator has bestowed upon it.

TRAPPING BIRDS. Various means are employed by bird-catchers for supplying the demands for songsters. Few of these are bred in confinement, the Canary being probably the only songster that has experienced a long domestication. So easily are many birds taken, and so readily do they become, with proper attention, contented with the cage, that they are allowed to breed as nature directs them. The earlier in life a bird is caged, the more easily it is domesticated, consequently most birds are taken from the nest just before they are ready to fly, and their feeding continued for a time by hand. Cage-life is then practically the only life they know, and such pets are usually docile and affectionate, being more highly prized on that account. By this method is kept up the supply of Mocking-birds which come into the market during the summer months. The young which escape detection in the nest are often trapped by various devices, in which the negroes of the South are usually expert. Most male birds are pugnaciously disposed toward any rivals that venture upon what they are pleased to believe their exclusive territory, and this tendency to resent intrusion and a supposed trifling with the affections of the opposite sex, gets

many a beautiful songster into trouble. The trapper knows this peculiarity full well, and places in a cunningly devised trap a trained call-bird of the species he is seeking to ensnare, sets the trap wherever he suspects his victim to be, and awaits results. The bird he wants soon happens along, sees the intruder in the trap, or is attracted by his calls, makes haste to demand an explanation, or to execute summary vengeance upon him. No sooner, however, does he alight upon the perch placed for him than clap-doors are liberated by means of springs, and the would-be pugilist is a prisoner for life. Red-birds, Robins, Bobolinks, Indigos, Nonpareils, and many other birds, are successfully taken in this manner.

Another method of taking birds is by means of bird-lime. This is a mucilaginous paste, formed by boiling down the inner bark of the white holly, or sometimes linseed oil is reduced by the same means to a pulp. Sticks are smeared with the lime, then placed where birds frequent, and results awaited. Should a bird alight upon one of them, he sticks fast until the hand of his captor releases him. If not soon freed from his predicament he will flutter himself to death. This means, with a number of variations in the manner of procedure, is much used among the peasantry of Europe for taking Linnets, which usually alight in flocks, Goldfinches, Chaffinches, etc.

BIRD CAGES. The kind of a cage to be procured for a bird will depend entirely upon the size of the bird and its habits in a state of nature. Bird-dealers have usually in stock a great variety of cages for the different classes of songsters, and in purchasing in this line it would be well to permit the dealer to designate the cage best suited for your purpose. Some birds sing better in small cages than in large ones, but in any case the health and comfort of the pet must be allowed suitable consideration. Brass cages are excellent for Canaries, and if properly cleaned will remain in a beautiful condition for a long time. Do not wash a cage of this kind with hot water and soap. Such applications affect the varnish, and will cause the wires to show milky spots or other imperfections. Scouring is still worse, as it removes the lacquer that protects the brass and that keeps it from corroding. Dampen a sponge in cold water, carefully wipe the wires, and then dry with a clean cloth. If the varnish of a cage becomes injured from any cause, it may be replaced at a trifling cost. The perches of a cage should be just large enough to be grasped with ease by the bird. A diameter of about seven-sixteenths of an inch is right for a Canary. Small perches injure the feet, causing cramps or lameness.

FOOD FOR BIRDS. The proper diet to be given a cage-pet will depend upon the character of its natural food, or such as it would seek instinctively in a state of freedom, and its ability to feed upon various other substances to which it could never have been accustomed. Food that would keep one bird in health and song would be entirely unfit for another; thus, birds having soft bills would starve to death upon seed that they would be compelled to crack. Nature intended them to feed upon soft substances, such as fruits, berries, insects, and the like, while birds with hard bills will find their principal subsistence in the seeds of various plants and trees. All seed-eating birds, however, will not thrive on the same kind of seed, nor is seed necessarily their exclusive food. Many require at times some of the insect food and green stuff that is given regularly to soft-billed songsters, in order that health and singing conditions may be preserved.

The food best adapted for the various kinds of cage-songsters mentioned in these pages will be indicated in connection with their descriptions, but should information be desired concerning the food of birds not herein described, no great mistake can be made if general principles and a little good sense are followed. It is hardly necessary to state that seed and all other food for birds should be fresh and of the best quality.

Hemp-seed is regarded more as a dainty than as a food for most birds. It should be rarely given to Canaries or similar songsters, but may be fed regularly to some of the large cage-birds. It is very rich and fattening, and if much is allowed to a singing bird he will become too lazy to utter a note. Some hemp in the seed-mixture for Canaries is not, as some imagine, necessary to health; the other seeds are fully sufficient to preserve a well-nourished condition. Most birds are very fond of this seed, and will turn out of their seed-cups the other seeds in order to reach the hemp.

Canary-seed is a good food for most seed-eating birds, the best grade being the Sicily. It is nutritious and healthful when in a fresh condition, but stale seed of this kind is particularly injurious. Fresh seed may be known by the shiny and firm condition of the shell and the white, compact kernel; when stale, the shell is lustreless and the interior worm-eaten.

Rape-seed is largely used by the bird-breeders of Germany for Canaries to the exclusion of all other seeds. The grade known as the German Summer Rape is the best, and may be obtained from any reliable bird-dealer. The cheaper grades of rape are unwholesome, and should be avoided.

Millet-seed is fed to African Finches almost exclusively, and forms a part of the regular mixture

for Canaries. The imported grade is the best, but the domestic can be recommended as good. It is a small, sweet seed, very nutritious, and as a regular food can do no harm to a bird.

Maw or *Poppy-seed* is the smallest of all seeds used as food for birds. It is largely fed to Goldfinches, Siskins and Crossbills. Its properties are stimulating and medicinal, on which account its use must be somewhat restricted. Birds are fond of it, and will sometimes feed upon it until intoxicated by the large amount of opium it contains.

Padda or *Unhulled Rice* is valuable for Bobolinks, Redbirds, Grosbeaks and all birds of very hard bills. Crushed corn is relished by Parrots, Macaws and Cockatoos, but since it does not contain all the necessary elements of nutrition, its use should be supplemented by other foods. It is likewise of a heating nature, and should be sparingly fed in warm weather.

Sunflower-seed may be fed to Redbirds, Grosbeaks and Parrots as a favorite change in diet. These birds are very fond of this seed when fresh, and it is believed to be thoroughly wholesome.

The seeds above enumerated are usually fed in mixtures, thus affording variety in diet that stimulates the appetite of the bird, and at the same time affords the several elements of nutrition. The best mixture for Canaries is made up of equal parts of

canary, millet and rape, but no hemp. Maw, canary, and a small amount of hemp, is excellent for Goldfinches and Crossbills. For Cardinals, Paroquets, Parrots and Lories, take equal parts of crushed corn, sunflower-seed, hemp and unhulled rice.

Soft-billed birds, in a state of freedom, feed upon insects, worms, small fruits, berries and tender buds. In the cage a similar diet must be maintained. Since the Mocking-bird is one of the best known of the soft-billed varieties, the mixture that is prepared for all such birds is known as Mocking-bird food. This can be obtained of any bird-dealer, but many prefer to mix the food themselves. There are two kinds of this food—the moist and the dry; the first being always ready for use, the latter requiring the addition of grated raw carrot. In its dry form this mixture may be prepared by taking eight parts of pulverized maw-seed, one part of crushed hemp, four parts of cracker or stale bread crumbs, and one part of ox-heart, the latter being pulverized after a thorough boiling. Before feeding, mix a small quantity of the preparation with some grated raw carrot, or for young birds a better addition is hard-boiled egg and some mealy potato. Birds of the soft-billed class also require a constant supply of insects, such as flies, grasshoppers and spiders, while meal-worms and scalded ants' eggs

are always acceptable. Some green food, such as lettuce, watercress, chickweed, or bits of sweet apple, are necessary for variety. As meal-worms are constantly required by many birds, it is well to breed them and thus have an ever-ready supply. Half-fill an earthen jar with bran, or any kind of farinaceous meal, in which bury some pieces of old flannel. Place in the meal a small quantity of meal-worms—say fifty—and cover with a piece of cloth, which should be dampened, from time to time, with water or stale beer. If left undisturbed for a few months, thousands of worms will take the place of the few introduced into the jar. Ants' eggs may be obtained of dealers; they should be scalded before being fed to a bird.

TAMING AND TRAINING. Whoever enters upon the difficult work of training a bird should have in store an unlimited supply of tact, patience and perseverance. The intelligence of the average cage-pet is remarkable, but to accomplish its manifestation in actions that are apart from the bird's natural habits, is a task for which few persons are suited. All birds, moreover, are not equally susceptible to training, owing to difference in temper and disposition, as well as in intelligence. The age of the pupil, also, must be taken into account.

The Canary, owing to his long domestication,

ranks at the head of birds capable of being taught, and among trapped birds, none can excel in smartness the European Goldfinch and the Linnet. Such birds as these may be taught to shake hands, ring a bell when they desire attention, draw up food and water, simulate death, climb the fingers presented in the form of a ladder, fire miniature cannon; and many other amusing tricks.

There is a radical difference in the way bird-trainers begin their instruction. By some, kindness and gentleness are employed at all times, while others consider cruelty as the only correct means. It must certainly be deemed wicked to use the latter means, and if a bird cannot be brought to understand what it is required to do by kindness, then do not attempt to train it at all. Some birds never seem to recognize their keepers as their friends; they are always suspicious of danger, and consequently any time lavished upon them will be wasted. A bird, to be trained, should be of a lively but gentle disposition, and the younger the better. It must be kept near its trainer as much as possible, and its wants supplied by no other person. The first step is to gain the confidence of the bird, which may be effected by gentleness, never frightening it by suddenly thrusting the hand into the cage, or endeavoring to catch it unnecessarily. A few hemp-seeds may be presented by the hand, or

placed on a table just outside of the open door of the cage. Birds are very fond of this seed, and if none is allowed in the regular mixture, they will soon learn to pick grains from the hand, or venture outside of the cage for them. At night, when the bird is asleep, insert the hand quietly into the cage and by a touch awaken him. He will peck at the fingers, which should be withdrawn suddenly, as though the sudden peck was something to be avoided. After a few nights of such experiences the pet will consider himself a conqueror, and will fight the hand in daylight. He will learn to shake hands, if his claw is gently touched at night and the words "Shake hands" softly repeated. Give a hemp-seed as a reward for merit and proficiency, and let it be taken from the fingers or from between the lips. When a good start is made, the successive accomplishments of climbing the ladder of fingers, feigning death, drawing water, and the like, will be readily acquired. Good judgment on the part of the trainer will readily suggest expedients for bringing about the desired results, the limits of this work forbidding a more extended description of details.

DISEASES OF BIRDS. It would be a mistake to suppose that birds in a state of nature are not subject to ailments, but it is true that when left to

follow their natural instincts disease is a rare affliction. When caged, the possibilities of derangements are largely increased, owing to carelessness or ignorance on the part of the keeper in supplying all daily requirements. Those that have "good luck" with birds are those who take care of them, and do not count it a task to provide all the necessary conditions of health and song. Study the nature of your bird, and regularly attend to his wants, then the many diseases that prematurely end the existence of so many cage-pets will forget to put in an appearance, and sprightliness and pleasing song will be your reward.



CHAPTER II.

THE CANARY.

NO species of bird has ever given so much satisfaction in the household as the Canary. Ever since its introduction into Europe in the sixteenth century, from the island in the Atlantic, the name of which it bears, it has been a favorite cage songster. Such perfection in the breeding of the species has been accomplished, that the domesticated bird now far surpasses the native stock in quality of shape, color and song, so that the latter is no longer drawn upon to supply the bird-markets of the world.

The domesticated Canaries may be divided into various classes, each separately distinct from the rest in song, shape, size or color—bird-breeders differing materially in what they consider the requisites of perfect birds.

THE GERMAN CANARY. The people who have devoted the greatest attention to the rearing of Canaries are the Germans. By them the cultivation of the singing qualities of the bird has been

almost the exclusive desideratum, no particular reference being made to beauty of plumage, shape or size. In consequence, the finest singers in the world are the trained German birds, not even excepting the best of Nature's winged minstrels. The length of the German Canary is about five and one-half inches, the color varying from a pure yellow to a yellowish green. The birds are sometimes variously mottled or crested, for as before stated, their breeding has entire reference to their song and not to their plumage.

In many districts of Germany the breeding of the Canary, for the supply of the markets of the world, is the principal occupation of the people, but the *Hartz Mountain* region surpasses all others to the extent that the German-bred Canary is designated by the name of that locality. The choicest breed is reared on the very summit of the mountain, in the little hamlet of *St. Andreasberg*, where favored by the purest and most bracing of atmospheres, the bird-education is carried to a degree that can scarcely be understood by ordinary readers. Every facility is given for the young birds to acquire the cultured notes of well selected singers. Besides, various mechanical devices are employed to introduce long trills, water and flute notes, and other oddities in song. From three to six months of constant training is needed to bring

the young songsters to the required degree of perfection. Birds that develop harsh or crude notes are promptly ejected. St. Andreasberg Rollers is the name by which these Canaries are usually designated. As might be supposed, their extraordinary vocal powers make them very desirable pets, and they rightly deserve the high measure of regard that has been bestowed upon them.

The size of the St. Andreasberg Canary is about the same as that of the ordinary German bird, and its color and general appearance are never more attractive, but when music is wanted and the soul is to be lifted from these meaner levels of thought and affection to the heights of seraphic ecstasy, then let the feathered songsters that are prized for their beauty keep silence one and all, while the king of musicians the St. Andreasberg Canary executes his heavenly opera of song.

THE BELGIAN CANARY. Shape in preference to song has been the end sought for in the breeding of this bird. Belgium claims the honor of its greatest development, bird-breeding having been long a favorite hobby with all classes in that country. The Belgian Canary is a long, slender bird approximating in shape when at rest to a right angle, its head and neck horizontal, its legs and body vertical. Its movements are awkward

in the extreme, and its usual appearance gawky, but to the trained eye of the bird-fancier the marks of high breeding are everywhere apparent. When excited, or at a given signal from his keeper, the bird assumes the perfect position which shows its breeding to the best advantage. The birds of this stock, being of an exceedingly nervous temperament, are never caught. When their removal from one cage to another is desired, they are guided by means of a stick. In color the Belgian Canary is usually yellow, but color is made subordinate to shape. The full-bred bird is seldom met with in America, but three-quarter or half-bred birds are well prized, as they retain much of the beauty of the full-bred, and are at the same time better songsters.

The cage in which this bird is confined should be roomy enough for his lengthy figure. His food differs but slightly from that of others of his race. In addition, however, to the regular Canary seed-mixture, the preparation of hard-boiled egg and cracker is recommended to be fed twice a week.

THE ENGLISH CANARY. The people of Great Britain are not behind their continental neighbors in the matter of bird-breeding, but, unlike the Germans and the inhabitants of the Low Countries, the English have given more attention in the rear-

ing of young birds to their color and size. The city of Norwich has given its name to the *Norwich Canary*, this particular favorite having been cultivated for years in or about that place. This bird is usually of a deep golden color, slightly larger than the Hartz Mountain species. Some sub-vari-



eties are splendidly crested. In song the Norwich Canary cannot compete with his German cousin. His notes are louder and not so well modulated as his rival's, nevertheless he does his best to be entertaining, and what is lacking in voice-culture he attempts to make up by spunk and ambition.

Other varieties of the English Canary are the *London Fancy*, the *Gold* and *Silver Lizards*, the *Scotch Fancy*, the *Yorkshire*, *Lancashire Copy*, etc. Of these the latter is the best known and the most remarkable. On account of its extraordinary size, the bird being nearly or quite eight inches in length, he may be regarded as a veritable giant in the Canary race. The word "Copy" signifies a crest, an ornament which is characteristic of this species: a sub-variety, however, called the Plain-head is bred without a crest. The Lancashire Canary presents a very striking appearance, the body being massive, yet graceful, the crest well proportioned and regular. The principal efforts of its breeders are directed toward securing great size in body and crest, and good proportions in shape. The song of the bird is loud, corresponding to its size, and is not without its attractions.

The Scotch Fancy, or Glasgow Don, which, as its name suggests, is a favorite in Scotland, is an offspring of the Belgian Canary, although generally more hardy, the same being true, also, of the Yorkshire breed. Excellence in shape forms the desired standard. No particular attention is given to the color of plumage or the quality of song.

The English Lizard Canaries, so called because the peculiar markings were supposed to resemble those of a lizard, are handsome fellows, without

exception the most beautiful of all bred Canaries. Every bird of this variety shows an attractive cap, which is uniform in color. This cap may be of a golden or steel-gray color, according to the variety, the body presenting a beautiful, spangled appearance, the result of a peculiar development in the coloration of the feathers.

BIRD-BREEDING IN AMERICA. The busy pursuits of the American people seem to prevent them from entering seriously into the fanciful pastimes that characterize the life of the European peasantry. One of these, in which our countrymen are not expert, is bird-breeding; for while a few bird-fanciers may be occasionally found, who pride themselves in the pure stock of their birds, our breeders in general are content if eggs are laid and hatched, and the young grow up to be indifferent songsters. The American-bred Canary has about the same relation to the European as the yellow mongrel has to the high-bred dog. Our birds are bred for pleasure and not for profit: but even pleasure would be enhanced if only the best stock were used in mating and science were to take the place of fancy in the methods of breeding.

CHAPTER III.

THE CARE OF CANARIES.

MOST of the wholesome directions usually furnished for the care of pet birds readily suggest themselves to the minds of intelligent persons. The best rule that can be given is to apply common sense. If left free to supply their own requirements, birds will follow the instincts of their nature, and when such freedom is denied them, their keepers are by duty bound to anticipate their wants and to furnish the necessary means of gratifying them.

Exercise is one of the fundamental needs of every active organism. Birds require it, but at the very outset of their career as cage-pets, it must needs be reduced to a minimum. Let the cage selected for a Canary be large enough to afford ample opportunity for flitting about; the larger the better, but no cage should be less than ten inches in diameter and twelve inches in height. Swings and rotating perches will afford much amusement to the occupant of the cage, as well as offer additional means of activity. Hang your Canary's cage in a moderately heated room and never where the bird will be affected by draught.

Care in following this simple direction will remove a fruitful cause of death. If a cage should be placed out of doors in pleasant weather, it must not be permitted to remain until the atmosphere becomes chilling. Fresh air and sunshine are grateful to a bird and necessary for its healthful condition, but they must not be given at the expense of warmth.

Always keep your Canary's cage scrupulously clean. This may seem a rather trite remark, but uncleanliness is so very conducive to annoyance and disease in birds as well as in man, that this particular advice cannot be too frequently insisted upon. If it prove to be too much of a task to attend daily to cleaning a cage and supplying its occupant with the necessities of comfort and health, then *do not keep a bird.*

PESTS. A lack of cleanliness will encourage the breeding of lice in the cage, and no cause is more fruitful of annoyance to the bird. When afflicted with these pests the Canary shows great uneasiness, plucks continually at his feathers, and appears generally wretched. If such a condition is observed, take down the cage and transfer its occupant to another. Upon examination of the crevices and perches a reddish dust may be detected, or a whitish deposit as of flour dusted

over the surface. These may be parasites or their eggs, and call for a thorough renovation of the bird's domicile. If the cage is a brass one, the best way is to have it refinished; this will prove an effectual manner of getting rid of the pests. Discard the perches, or pass them through the flame of a lighted candle. On other than brass cages hot water and soap will be effectual if followed by an application of varnish. Rest assured it is easier to prevent the coming of bird-pests than it is to bid adieu to them. Before returning the bird to its cage, dust it thoroughly under the feathers with German insect powder. This is usually effectual in annihilating such parasites as may be upon the bird's body. The little pet will soon resume its usual sprightliness, and renew its singing. A good way to detect the presence of lice in the cage is to cover the cage at night with a piece of clean white muslin. Examine this on the under side in the morning, and if there are insects about the bird, some will be found upon the cloth.

DRINKING AND BATHING WATER. Fresh water for drinking and bathing should be placed in the bird's cage daily. Drinking water which has been unchanged for several days may cause inflammation of the intestines, a trouble to which Canaries

are particularly subject, and of which many die. The bathing dish should be shallow and the water for the bath of a moderate temperature. Few birds will neglect to avail themselves of bathing opportunities if these are given them about the same time daily. After the bird has bathed remove the dish, and give no further opportunity to bathe again during the day, as too frequent ablutions sometimes produce cramps.

A persistent refusal of a bird to use the bath-dish provided for him is often caused by a neglect to furnish him the opportunity to bathe at regular intervals. He will complete his toilet with water abstracted from his drinking cup, and utterly ignore his bathing dish, much to the chagrin of his mistress. For this condition of affairs there is often no help, but regularity in placing bathing water in the cage, and removing it after it has been there an hour or so, will do much toward inducing a desire on the part of the bird to make use of the dish at the proper time. Sometimes moderately spraying a bird that refuses to bathe, then placing him in the sunshine to dry and dress his feathers, will induce in him a desire for thorough ablutions. But care should be taken not to wet the bird's feathers too much, and never in a cold or chilling atmosphere.

SEED AND OTHER FOODS. The best seed for Canaries is a mixture of German summer rape, Sicily canary, and millet seeds in about equal proportions. This mixture may be fed the year round and should be the principal diet of the birds. Hemp is wholly excluded from this bird-seed owing to its very fattening qualities, and notwithstanding the fact that all birds are fond of it, it should not be fed under ordinary circumstances. A few grains may be given possibly as a reward for purposes of training, or for building up an emaciated system. All seed fed to birds should be fresh and of the best quality; obtained, if possible, from a bird dealer, as that which is purchased from grocers is usually poor and unwholesome. Two or three times a week birds should have some green food, such as lettuce or cabbage leaf, chickweed, endive, water-cress, or a piece of sweet apple. Such food, however, soon becomes stale, and should be removed before it proves a means of injury. Cake, sugar, candy, figs and such dainties should never be fed. A mixture of hard-boiled egg and pulverized cracker or stale bread crumbs is a valuable food under certain conditions, but birds in full health and song do not require it. This food may be given daily during the time of moulting. It may be fed regularly to breeding birds during the entire period of incubation, and

should be the principal food of young birds until they are able to crack seed.

CUTTLE-FISH BONE AND GRAVEL. The digestive organs of a bird are so constituted that small particles of gravel are essential for a thorough grinding of the food before it enters the stomach. The bottom of a bird's cage should therefore be strewn with clean fine gravel from which the bird can pick at will, and in which it will often delight to serape. Cuttle-fish bone is furnished as an excellent appetiser. While not wholly necessary for the health of the bird, its saline proportions render it wholesome, and a desirable addition to the daily food.

CAYENNE PEPPER. It has been long generally known that the feeding of cayenne pepper to a Canary for a certain length of time before and during the moulting season will materially alter the color of the plumage; the change being to a very pronounced reddish-orange hue. This secret was guarded for a long time by its discoverer, who reaped a most splendid financial harvest for his good luck or ingenuity. As such a change of color is produced by artificial means, cayenne-fed Canaries cannot be classed as a distinctive species. The coloring, moreover, disappears when the bird moults and the new feathers display their natural

hue unless the feeding is renewed before the period of moulting begins. The pepper used should be of the best grade; that obtained from a reliable bird-dealer will prove most satisfactory, as it is imported for this purpose. One heaping teaspoonful is thoroughly mixed with a hard-boiled egg grated fine, together with an equal amount of pulverized bread or cracker crumbs. The quantity of this mixture that a single bird will consume varies considerably; the average amount to be fed being one heaping tablespoonful each day. The regular seed-mixture should be reduced to half the amount during the cayenne feeding. Canaries are very fond of the pepper food, but care should be taken not to over-do the matter. Enough will prove better than a feast. The delicate organism of a bird might become seriously affected by over-feeding. It is thought by some expert bird-fanciers that moderate quantities of the coloring mixture have no ill effect upon the health of the Canary, while others assert that it is decidedly harmful.

The birds usually subjected to such artificial coloration have naturally a deep yellow color. The Norwich Canary is the very best of this class, its hue being to start with a beautiful golden. The feeding of the cayenne food is begun when the nestling is some six or eight weeks old and con-

tinued until the moulting period is decidedly passed. The color should then be sufficiently set, but all birds are not equally affected by the food. Indeed, some Canaries do not seem to be noticeably changed by all the pepper that they can be induceed to swallow. In the second year, and in each succeeding year thereafter, the pepper diet must be renewed about two weeks before the moulting period and continued until the same length of time after the bird has aquired his full plumage. Cayenne-fed Canaries, as a usual thing, sing well, as pepper invigorates the vocal organs. They present a handsome appearance and are possibly as hardy and sprightly as others fed upon ordinary seed mixtures.

THE MOULTING PERIOD. The shedding of a bird's feathers is a natural process that takes place annually; it must not be considered a disease, although carelessness at such a time in the matter of attention may jeopardize the life of the bird. The moulting season usually begins late in August, and should be fully past in from four to six weeks. Nestlings have attained their full plumage when about two months old, and very soon thereafter begin to shed their body feathers, those of the wings and tail being retained until the succeeding season. When the time for moulting begins a bird loses his sprightliness, stops singing, perches

with his head under his wing considerable of the time, and shows no appetite for customary food. He should then have a more generous diet. In addition to the regular seed, feed daily a mixture of hard-boiled egg and pulverized cracker crumbs, to which a pinch of cayenne pepper may be added. The danger of taking cold is the greatest that besets a moulting bird. The cage may be partially covered with paper or cloth and hung where its occupant will be protected from draught and where a moderate, even temperature prevails. It is better also at this period to clean the cage less frequently, in order to prevent any unnecessary disturbance to the bird. A moderate degree of heat and sunshine will materially assist the restoration of the bird's usual appearance and sprightliness.



CHAPTER IV.

THE BREEDING OF CANARIES.

THE rearing of young birds is a task in which all will not be equally successful, but it is safe to say that if care is taken to follow a few simple directions a reasonable amount of success may be assured to all. The breeding of Canaries may be commenced as early as February and continued until late in the summer, one pair raising several broods if permitted. The policy, however, of continuing the breeding season too long is to be disparaged as such continuation will prove detrimental to the health and comfort of the birds.

The desire to mate is natural to a bird during the early spring months and if not permitted to do so, a slight illness known as the "mating fever" may ensue. This is most common in the latter part of April or the first part of May. The bird sometimes takes his condition seriously to heart, refuses his food, and ceases singing. If mating is an inconvenience, the bird's cage should be hung in a cheerful place, where different surroundings may divert his attention, and if possible another

singing bird should be placed near him for company. Talk to him and proffer him dainties; the probability is that he will soon forget the desire of his heart and resume singing. A better way, however, at such a time, is to mate your bird; the trouble, it is believed, of ministering to the wants and looking after the domestic conditions of the bird family would be fully compensated by the pleasant consummation of their household affairs.

Procure of your bird-dealer a female of as good a breed as it is possible to obtain; if older than the male, it will be all the better as the offspring in such a case will consist of more males than females. If the parent birds are about the same age, the sexes in the young birds will probably be equally represented. The colors of the young will be characterized by those of the parents. A thickly mottled bird may be mated with a pure yellow female to produce a progeny lighter than the male, but darker than the female; a fine yellow bird may be obtained by mating a deep yellow songster with a whitish yellow or mealy female. The singing qualities of the young males cannot be predicated from those of the parent. Excellence of song is the result of voice culture; it can only be attained by careful training during the period that the young males are beginning to sing.

Birds will often quarrel considerably when they

are first placed in the same cage. It is a good plan to give them a suitable opportunity of getting well acquainted before they become occupants of the same domicile. Place the female in the breeding cage, which should be set or hung where it is to remain, and on the opposite side of the room hang the singing Canary's cage. In a few days the birds will become quite familiar, the male calling and the female answering, and then you may be assured that they are ready to undertake the responsible duties of domestic life.

The cage in which the breeding takes place should be roomy, ten inches or upwards in width and sixteen or upwards in length. It should be hung against the wall or placed upon a shelf some seven or eight feet from the floor, and facing if possible, the south, as that will prove the most cheerful aspect. When once it has become the home of its prospective tenants, its position should not be changed, nor should it be needlessly taken from its place. The cage should be provided with a drawer which must be kept clean and strewn daily with fine gravel. It is especially to be desired during the breeding period to prevent the accumulation of lice as they are particularly annoying to the young birds. Cleanliness is a very certain preventative. Pieces of old plaster or crushed oyster shells should be strewn with the

gravel in the bottom of the cage as the lime that the plaster and shells contain is utilized for the formation of egg-shells. Without this, soft-shelled eggs might be laid and such would be useless. Fresh water, both for drinking and bathing purposes should be supplied daily. Some birds will bathe during the breeding period while others will not; it is best to allow them to act according to their own free will in the matter. Plenty of nutritious food should be given, as the cares incident to paternal and maternal duties are wearing upon the bird organism. Feed the egg and cracker mixture daily in addition to the seed, and some green stuff, such as lettuce leaf or bits of sweet apple, frequently. This diet, indeed, should have been begun with the birds several days before they were placed together. Underfed birds sometimes eat their eggs as fast as laid, much to the annoyance of the breeder, but it is safe to say if the above mixture is fed plentifully your birds will not care to destroy their own treasures.

As soon as the male is observed to be feeding his mate, it is certain that the two have come to an amicable adjustment of their difficulties. In about eight days after mating, the female will begin to lay, and will deposit one egg daily until the whole number are laid. The set of eggs is seldom less than four, but often five or six and sometimes

seven. Almost immediately after the deposit of the last egg the female will begin incubation, a task in which she will be assisted occasionally by the male, if he is a good husband. The first egg will hatch in exactly thirteen days, then one egg each day in the order in which they were laid, until all the young birds are out. If an egg should be unhatched in two or three days after the proper period for incubation is past, lift it out of the nest carefully by means of a spoon; hold it up between a strong light and the eye. If dark blood stains appear, return the egg to the nest, for it may yet be hatched, but if it is semi-transparent it may be discarded at once. Loud noises near at hand, such as peals of thunder, the slamming of a door, the report of a gun, and the like, are said sometimes to kill the embryo, and render the egg worthless.

The male will assist the female in feeding the young; plenty of soft food should be supplied them for this purpose, as the infant progeny have very large mouths and very capacious stomachs, and notwithstanding the assiduous efforts of the parents they seem always hungry. The egg and cracker mixture should be their customary diet, and on this alone they will thrive, as it is very nutritious and well calculated to furnish the necessary means of development. In from two to three weeks the young birds will be able to leave

the nest and avail themselves of the perch. They will soon learn to feed themselves if plenty of soft food is kept in the cage. In addition to the egg food, some soaked, ripe seed may be given regularly in a separate dish. When some four weeks old the males will be noticed swelling their throats as if attempting to warble, whereupon, if it is desired, the sexes may be separated. The birds will be in full feather when six weeks old, but very soon thereafter begin to cast their body feathers, and two months may elapse before they are in perfect plumage again. During this period, they should be carefully preserved from draughts, and fed the egg mixture daily, together with rape-seed which has been softened in water, and a little crushed hemp.

A young male's capacity to sing may depend upon good breeding, but the excellence of his song is dependent upon his musical training. If he sings well, he has learned by imitation. If you expect your young birds to become good singers, you must place near them as good a songster as you can buy or borrow. A little money spent for a fine singer that can act as instructor to the young will be well repaid by the satisfaction you will get in knowing that you have not only reared a few broods of Canaries but that you have added to your possessions a number of excellent songsters. Bird-

breeders in Germany put their Canaries to school immediately after the moulting season is past, the birds being then about three months old. A large number of young males are placed in a half-lighted room connected with an apartment above by an opening in the ceiling. In the upper room are placed the choicest singers that can be commanded --Nightingales, Larks, Blackcaps, etc., which act as instructors to the young birds. The Canaries soon learn the lessons so carefully set for them, and in a few months become expert musicians.

Having now traced the ordinary routine of breeding Canaries, it will be well to note a few of the incidental annoyances that may occur to mar the pleasure of the breeder. Occasionally a male bird is capricious about bestowing his affections upon the bride that has been chosen for him, and sometimes the female will resent all attentions that may be proffered her by her liege lord. If the birds refuse to mate on account of any coldness of heart on the part of either of them, find out which one is at fault and then change the bird.

When a female has trouble in laying her egg she is said to be "egg-bound." This condition is prostrating, and if the egg is not laid within a reasonable time some expedient should be tried to bring about the desired result. Take the bird gently in the left hand with her back to the palm, and

expose the passage to the steam of a kettle for a few minutes; apply with a pointed stick a drop or two of sweet oil to the vent, and return the bird to the nest. It is probable that the egg will be laid immediately. This condition may be prevented by feeding daily plenty of green stuff for a time before the birds are mated.

It may happen that the male and sometimes the female parent is guilty of eating the eggs as soon as laid. This fault is said to result from under-feeding. The birds should have extra nutriment from the time that they are placed together and as long as they are acting in the function of parents. If however the breeder is likely to experience this annoyance, the eggs may be removed as fast as laid (using a spoon for this purpose) and small marbles substituted. When the entire quota is laid, the eggs should be carefully returned to the nest as the hen will begin incubation at once.

After the eggs are hatched too much curiosity on the part of the people of the household in displaying the interesting progeny will sometimes cause the bird parents to desert the young. Leave the birds unmolested as much as possible. If then they persist in failing to feed their offspring the latter must be fed by hand or left to perish. Remove the nest with the young birds in it from the cage, taking care to keep them warm, then feed

them every hour during the day with the egg mixture previously recommended, using for the purpose a small stick or quill. A Red-bird placed in the same cage with a nest of deserted Canaries will sometimes perform all the duties of a foster-parent. He tenderly supplies them with all they desire, and acts besides in the capacity of musical instructor.

A hen may cover her young too closely during the first few days and so "sweat" them; at the same time she is likely to neglect their proper feeding. It may be well in such a case to remove her mate from the cage, thus compelling her to leave the nest for food. The sight of plenty of fresh food in the dish and of the gaping mouths of her young nestlings will usually be sufficient to suggest her duties as a provider.

HYBRIDS. A hybrid or mule-bird is the offspring of a male of one species and the female of another. Some persons have a fancy for such breeding; indeed, it must be acknowledged that the difficulty of producing desirable variations in species is not without its special attractions. All hybrids are incapable of reproduction; any attempt to mate them would necessarily prove futile. The female Canary will mate with the males of many species similar in habits to herself if the opportunity of mating is given during the natural pairing season.

of the male bird. The females also of many varieties less domesticated than the Canary will mate with the male of the latter species. The Goldfinch, Bullfinch, Chaffinch, Linnet and Siskin among European birds, and the Goldfinch, Bobolink, Indigo and Nonpareil among American species, will mate with the Canary. The proper time of breeding for most of these varieties is about the middle of May. The American Goldfinch is exceptionally late in mating in its natural state, as it is often late in the summer before its first brood appears. The breeding of hybrids will be found more difficult than that of Canaries, although the same general rules will apply to all. High colors are sought for in mule-breeding, and the song resulting from combination is sometimes excellent.

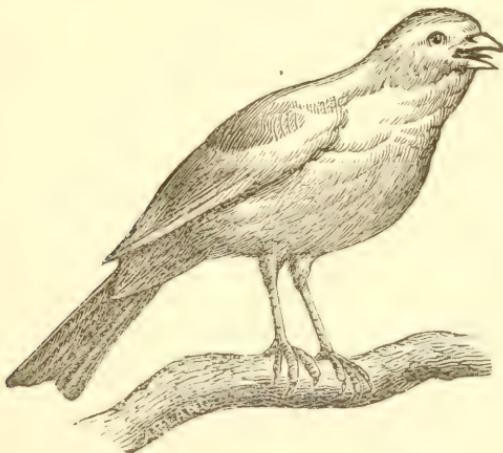


CHAPTER V.

THE DISEASES OF CANARIES.

THE Canary is a remarkably healthy bird, living many years if proper attention is given to its requirements. Disease or premature death must be attributed usually to neglect, a statement which has been made with equal truth respecting cage-birds in general. Over-kindness, however, and consequently over-indulgence in the matter of feeding, often lays a foundation for future trouble. Simplicity in food is one of the secrets of long life in pets as well as in the human race, yet this statement in no way conflicts with the time-honored saying that "variety is the spice of life." Changes in diet may be made from time to time, but whatever is fed should be simple in its nature, and calculated to nourish the bird-organism. If you would have your bird "live to sing," it must be made to "eat to live," and not to "live to eat." Cake, candy, sugar, and various other sweetmeats, are wholly unknown to birds in a state of nature, and should be rigorously excluded from the daily *menu*.

Cleanliness and a care to exclude stale food and water from a cage, will save its occupant a period of suffering, and, perhaps, its fond but indulgent owner a temporary heartache. A few of the principal troubles to which Canaries are subject will be briefly enumerated, and the remedies usually found sufficient for the same will be given. It may be remarked, in this connection, that the diseases of other cage-birds are, to a large extent, very similar in their nature to those of Canaries, and may be treated by the same means as recommended here, unless otherwise specified in the proper connection.



CANARY IN HEALTH.

Taking cold is a fruitful source of disease, being usually due to negligence. A bird's cage has been hung in a draught, or placed out of doors during the sunny part of the day and forgotten until after

the sun has gone down, or, perhaps, allowed to remain out all night. The morning finds you with a wheezy bird on your hands, if not with a dead one. Colds produce asthma, consumption, loss of voice, diarrhoea, and other kindred troubles.

Many birds of a greedy disposition are subject to indigestion. Their appetites may have become vitiated by the feeding of dainties, or, after a period of neglect, too much food is given at one time, from which they greedily appease their hunger. Perhaps the drinking water has become stale, or a bit of apple or green stuff has soured, and has not been removed from the cage. From such causes arise constipation, fits, inflammation of the liver or bowels, from the latter of which many birds die. Uncleanness or a foul atmosphere may cause cramps, sore feet, various diseases of the skin, and, where many birds are confined, some contagious diseases.

ASTHMA is usually the result of cold, but may, in some cases, arise from indigestion. It is characterized by difficult breathing, the afflicted bird opening his mouth frequently to gasp for air, and producing, from time to time, a peculiar wheezing. Place the cage where there is as even a temperature as possible night and day (70° is about right), and see that the bird cannot be affected by draughts. A

bird's cage is frequently hung upon a support fastened to a window casement, and it sometimes happens that the window sash is very loose. Through the crevices comes a constant flood of cold air, which may not be perceptible to persons in the room, but which means death to the bird. Make sure that such conditions do not exist. Reduce the bird's diet to plain rape and a few canary-seeds, from which all dust has been carefully removed. Plenty of bread, soaked in water and squeezed until the surplus water has been removed, may be fed daily; or bread boiled in milk will be better. Feed lettuce leaf, endive, watercress, or other green food, two or three times during the week, but remove the remnants from the cage before they become stale. Hang in the cage a piece of fat, salt pork, uncooked, at which the bird can pick at his pleasure; sprinkle the pork slightly with cayenne pepper. Birds suffering from asthma should not be caught if it is possible to avoid it.

COSTIVENESS often afflicts birds recently bought. They have been fed on dry seed alone, and have had no means of exercise in their small cages. A bird often manifests this trouble by frequent switching of the tail, and efforts to obtain relief. The feathers are ruffled in appearance, and the bird shows a general uneasiness. A permanent cure of

constipation must be brought about by correct feeding; temporary relief may be effected by giving a piece of stale bread, moistened in sweet cream, then sprinkled with maw-seed, or administer a few drops of castor oil. Sweet apple and some green food, given several times each week, will prevent this trouble.

Loss of Voice is sometimes the result of cold, and sometimes of over-singing. This condition is seldom lasting when it receives proper attention. Give a more generous diet for a short time; it is well to feed the egg-mixture, sprinkled with cayenne pepper, and to dissolve a small piece of rock candy in the drinking water each morning.

After the moulting process is fully over, a loss of voice is sometimes observed to affect a singing bird. He may be ambitious to resume singing and indeed may go through all the motions as usual but not a sound is heard from his throat. This condition is often the result of cold contracted during the moulting period; the above remedies will probably prove efficacious. A piece of raw fat bacon hung in the cage is excellent.

DIARRHŒA is a frequent and very weakening complaint among birds. It often affects those that have been newly trapped, and in many cases proves

fatal. The principal cause of diarrhoea will be found in the manner of feeding, although the trouble sometimes results from a cold. Green food, too frequently fed, or permitted to be eaten in a decayed condition, or foul drinking water, or too much sloppy food, are all conducive to the disease. It is made manifest by the watery character of the bird's droppings, and calls for speedy relief. The simplest remedies are as follows: Place a rusty iron nail in the drinking water, which must be given fresh at least once a day; withhold green food for a few days, and with the gravel on the bottom of the cage sprinkle cayenne pepper and some chalk grated fine. Keep the cage thoroughly clean, placing it where the bird will be warm and dry.

FITS, OR CONVULSIONS are probably due to indiscreet feeding, and will yield, usually, to a correct diet. Feed, for a time, rape-seed with a little canary, but no hemp. Beware of all sweetmeats whatsoever, but give plenty of lettuce or sweet apple. Never hang a bird's cage in the hot sunshine: to this fault may be attributed some epileptic disturbances rather than to indigestion.

Some bird-fanciers assert that fits are usually if not always due to prolonged constipation. If such a condition is known to exist the remedies

for costiveness should be applied and great care exercised in dieting.

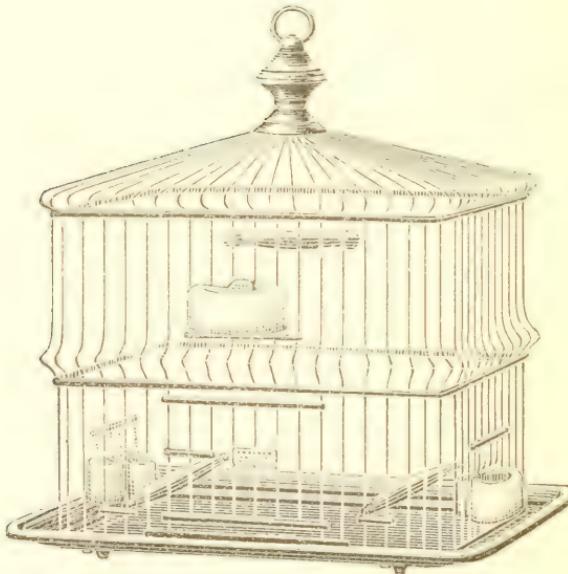
INFLAMMATION OF THE INTESTINES. This is a dangerous trouble, and if not checked at the outset is likely to cause death. Like some of the foregoing diseases, it has its origin in bad feeding, and a consequent derangement of the digestive organs. Impure drinking water, bad seed, or stale food of any kind, are fruitful causes. The bird shows symptoms of pain, scarcely cares to move or perch himself erect, has no appetite for food, but evinces great thirst. If the sufferer be gently caught, and the feathers parted over the abdomen, that region will be seen to show a reddish hue, varying in depth of color with the intensity of the disease. Adopt hygienic measures at once; crackers or stale bread, soaked in milk, may be fed to the exclusion of other food for a day or two. A warm application, to the abdomen, of turpentine and lard will afford relief. Absolute cleanliness, a moderate temperature, and freedom from all excitement, may bring the little sufferer back to health. During convalescence a nourishing diet may be given. Some bird tonics, to be obtained in the stores, will be found useful.

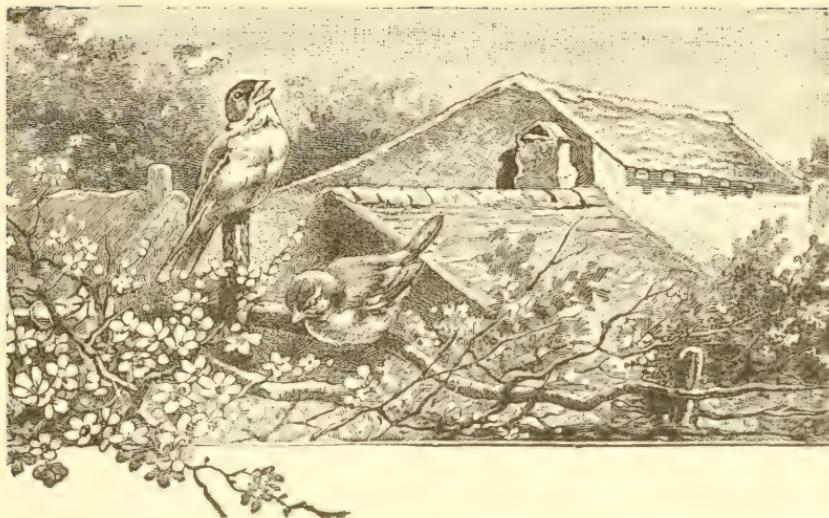
CRAMPS AND LAMENESS. Cramps are the result

of too frequent bathing, filthy or too confining cages, or of indigestion. The legs, if affected, may be immersed in a warm bath; a few drops of laudanum placed in the drinking water is beneficial. Lameness is due to the use of perches too small to be conveniently grasped, or, perhaps, to filth. The scales on a bird's legs, which increase in thickness as the bird increases in age, sometimes produce lameness, and should be removed. First soften them by the aid of glycerine, used as a lotion; in a couple of days they may be removed by means of a knife-blade. A bird's nails should not be permitted to grow unnecessarily long. When they appear to need trimming, gently catch the bird, and holding the claw up between a good light and the eye, so that the blood veins may be discerned, clip away with sharp scissors the superfluous nail, taking care not to draw blood by cutting into the quick.

ACCIDENTS will happen in the best regulated families, and these sometimes occur to one's feathered pets. Should a bird become badly injured and its recovery doubtful, the most merciful means of freeing it from its suffering is by the use of chloroform. Make a stiff paper cone large enough to cover the bird; a few drops of chloroform placed therein along with the injured bird will cause a painless

and speedy death. In the case of ordinary injuries the cage should be hung in a warm, dry place; place food and drink in an accessible place, then leave the sufferer to himself. Quiet and nature's healing balm will, in a few days, restore the invalid to his usual sprightliness.





CHAPTER VI.

EUROPEAN SONGSTERS.

THE ornithological fauna of Europe includes some of the finest songsters of the world. They have, from the earliest times, been celebrated in prose and song, and the names of many of them are as familiar to American readers as are those of our own worthy minstrels. Who has not heard of the Nightingale, the "sweet Philomel" of the poets, who have loved to sing of his enchanting melodies poured forth in moonlit groves, and of the Skylark, that "ethereal minstrel, pilgrim of the sky," whose morning hymn is chanted in ecstatic flight.

The European birds are, as a rule, less brilliant in plumage than our American songsters, but if the former are lacking in beauty they are certainly worthy rivals of their neighbors across the sea in song. Quite a large number of the European birds are desirable as cage-pets and for the aviary. Much attention is given in the Old World, by the common people, to the domestication of native songsters, and probably to their love of such pursuits is due the fact that large numbers of cage-birds are annually imported into this country. Such of the peasantry as follow sedentary occupations—tailors, shoemakers, weavers, etc., are often-times expert bird-trainers, and realize handsomely by the sale of such feathered pets as they have, from time to time, in training.

I.—SEED-EATING BIRDS.

GOLDFINCH (*Carduelis carduelis*). The Goldfinch is one of the handsomest and deservedly one of the most popular birds of the Old World. Large numbers of these Finches are annually trapped, and owing to their easy domestication, their musical proficiencies, agreeable manners, and aptness to acquire smart tricks, they find a ready market the world over. The extreme length of the bird is five and one-half inches; the bill is tipped with

black, and encircled at its base by a beautiful fringe of bright scarlet feathers; the top and back of the head and a band extending on either side, just forward of the shoulders, are black; the cheeks and throat are white; the back, shoulders and breast a tawny brown; the rump, wing and tail feathers black, those of the wing being tipped with white, and their black relieved by bright patches of yellow. He seems fond of his beauty, and loves to dress his feathers and cleanse them with a daily bath.

The Goldfinch, when trapped, shows little anxiety concerning his new mode of life. He is always a happy fellow, and, like all happy fellows, adapts himself readily to his surroundings. He soon strikes up a lasting friendship with his keeper, and inwardly vows to prove himself worthy of all the kind attention bestowed upon him. His song is mellow and pleasing, but lacking in force; in confinement he will sing most of the year, the principal exception being the moulting season. With a lively and charming motion of the body he utters his pleasing melody, the overflowing of a heart in which care has no abiding place.

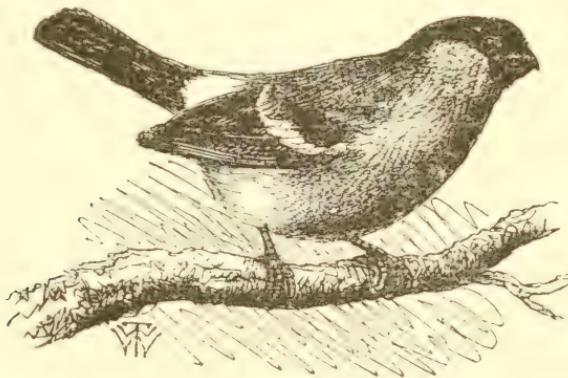
This Finch is one of the best trick-birds of the world. His apt intelligence enables him to acquire the habit of drawing up his seed in a bucket, firing cannon, climbing the fingers, feigning death, ring-

ing bells, and many other smart things, in all of which he is rarely equalled by other birds.

His daily food in confinement is maw-seed, slightly mixed with canary: a few grains of hemp may be occasionally given him as a luxury, or as a reward for meritorious proficiency in learning. His daily bath should be by no means neglected, as bathing is one of his greatest pleasures. His general treatment is similar to a Canary's, and his diseases, which are few, may be relieved or prevented by preserving hygienic conditions. The male Goldfinch mates readily with the female Canary, the progeny being said by some authorities to be productive. This is not the case with hybrids in general, but since the Goldfinch is nearly allied to the Canary, which is also a Finch, such an exception to the general rule may obtain.

RED LINNET (*Fringilla linota*). The Linnet, like the foregoing species, is a particular favorite with all classes in Europe, its sweet, well-modulated song and docile manner making it a desirable cage-pet. Linnets are very sociable in disposition, and large flocks are often seen perched on the top of some favorite tree, warbling and chattering in a most happy and engaging manner. They are easily taken by means of bird-lime or clap-traps, and readily adapt themselves to a cage existence. The

Linnet is said to acquire readily the notes of other songsters with which it is confined, yet its own song, so sweet and naturally varied, is by no means improved by the combination. The habits of the Linnet are so nearly like those of the Canary that the same treatment may be given it in health and disease. In its natural state the bird is very fond of bathing, and no opportunity is lost to bathe and dabble in every wayside rill, then to dress its wet coat in the sunshine. In intelligence the Linnet is little, if any, behind the Goldfinch, his ability to acquire amusing tricks being very marked. He is hardy, quite free from diseases of any nature, and will pipe his sweet and pleasing song at most seasons of the year.



BULLFINCH.

BULLFINCH (*Loxia pyrrhola*). The Bullfinch, though possessing naturally few notes entitled to consideration, is one of the most highly

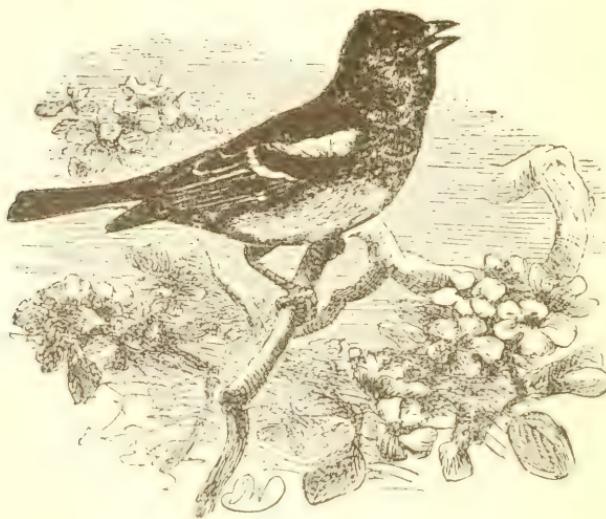
prized of all cage-birds. His merit lies in his ability to pipe different musical strains that are whistled to him by expert trainers. In Germany, in particular, peasants of sedentary occupations make a specialty of training Bull-finches, and from them are obtained by bird-traders the piping birds that are sent to all quarters of the globe. Birds intended for the American trade are taught the "Star Spangled Banner," "Yankee Doodle," "Hail Columbia," etc., which they execute with accuracy and sweetness: while such birds as are to find English homes will pour forth the strain of "God Save the Queen" with equal patriotism and vim. The Bullfinch is a beautiful bird, in appearance very neat and precise. The bill is quite short and stout, being black in color; the crown of the head is black, and a narrow, black rim of feathers encircles the bill; the greater part of the body is a handsome chestnut in color; the wings and tail are black.

The natural food of the Bullfinch is the seeds of plants and trees. He exhibits, likewise, an unusual partiality for the tender fruit-buds in farmers' orchards, for which reason he is considered by agriculturists one of the most pernicious of bird-pests. In the cage his principal food should be a daily supply of fresh rape-seed, and a very few grains of hemp occasionally. Fresh green food

may be given him two or three days in the week, but the remnants of such food should be removed before they become stale. It is best that the Bullfinch should be cared for by the same person day after day. A strict diet of wholesome food, all dainties being carefully excluded, will go far toward preserving the healthy condition of the bird. The Bullfinch moults so rapidly that he is almost devoid of feathers at times; he should accordingly be well shielded from draughts, his cage being hung in a warm, dry place. During the period of moulting the bird will not sing. He should receive at that time a more generous diet of strengthening and stimulating food. A rusty nail placed in his drinking water will have a wholesome effect, and this may be done at any time that the bird shows a tendency to diarrhoea, a disease which frequently affects him. The claws of a Bullfinch grow rapidly, and should be trimmed whenever their length seems to be a hindrance in leaving the perch. He should not be frightened, nor caught unnecessarily. While he is more subject to diseases, probably, than some other birds, it is nevertheless true that proper care will prevent any discomfort in his life, or discontinuance in his song, other than the exceptions noted in the natural process of moulting.

CHAFFINCH (*Fringilla coelebs*). The Chaffinch is a favorite cage-bird in some parts of Continental

Europe, but the English do not value it highly, as it remains in song only a part of the year. Early in the season, while winter still lingers in the lap of spring, the sweet song of the Chaffinch may be heard on every hand, a pleasing intimation that sunshine and good weather are close at hand. During the spring, and until the middle of the



CHAFFINCH.

summer, the warblings of this bird are frequent, the first heard of all the songs of the vernal and matin choristers. During the remainder of the year he is entirely silent, and no circumstances seem sufficient to call forth one note of melody. In the Low Countries a great act of cruelty is perpetrated upon the caged Chaffinch. To prolong

his powers of song, his eyes are seared out with a hot iron, and the unfortunate chorister is doomed to a life of gloom.

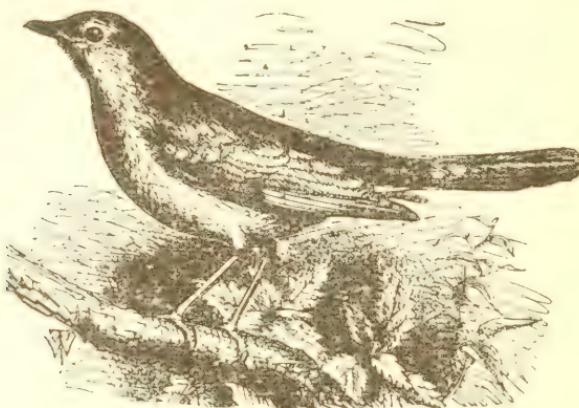
“How the song of birds is involved in mystery! Mystery probably never to be explained. While sauntering up and down the Continent in the blooming month of May, we hear the frequent warblings of the Chaffinch; and then we fancy he is singing solely to beguile the incubation of his female, sitting on her nest in a bush close at hand. But on returning to the town we notice another little Chaffinch, often in some wretched alley, a prisoner with the loss of both his eyes, and singing nevertheless as though his little heart would burst. Does this blind captive pour forth its melody in order to soothe its sorrows? Has Omnipotence kindly endowed the Chaffinch with vocal faculties which at one time may be employed to support it in distress, and at another time to add to its social enjoyments? What answer shall we make? We know not what to say; but be it as it will, I would not put out the eyes of the poor Chaffinch, though by doing so I might render its melody ten times sweeter than that of the sweet Nightingale itself.”—WATERTON.

II.—SOFT-BILLED BIRDS.

NIGHTINGALE (*Philomela luscinia*). Although universally esteemed for his musical capabilities, the Nightingale is devoid of all attractiveness in appearance. “Nature,” says a writer, “has compensated for its plainness by giving it a voice irresistibly charming. Listen to its fine, long, quivering notes. What variety, sweetness and brilliancy in them! It seems to study and compose beforehand the melodious notes it wishes to be heard. It begins softly; then the notes swell gradually, till they run with the torpidity of a torrent; it goes from serious to gay, from simple notes to the wildest warbling, from the lightest turns and shakes to languishing

sighs, and has throughout the whole the art to please the nicest ear."

The habitat of this bird includes nearly the whole of Europe and a portion of Asia, some of the warmer countries being particularly favored by his presence in abundance. Pleasant groves near running waters are his haunts, and there his "most



NIGHTINGALE.

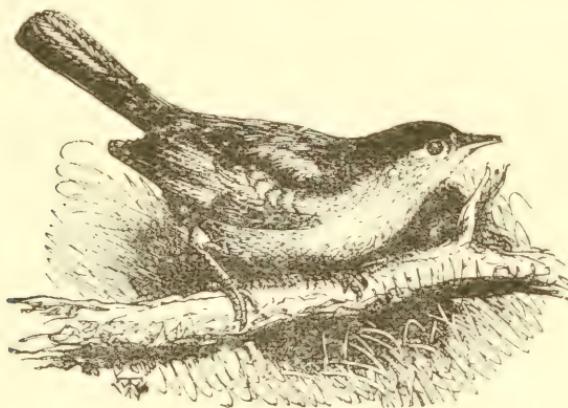
musical, most melancholy" notes are very sure to be heard after his arrival in the spring. At night, when other songsters are silent in repose, this king of musicians reigns supreme. Anxious to please his mate, he exerts his strength of voice to the utmost, and so beguiles the weary hours of darkness. The Nightingale is easily trapped, and with proper care he may be kept in song during the greater portion of the year, although his choicest music will be produced during his natural mating

season. He may often be incited to sing when otherwise silent, by placing his cage near that of another songster, whose music he will zealously attempt to silence. He is a voracious feeder, and not only enjoys, but requires, a good variety of rich food. The prepared Mocking-bird food should be given him daily, and ants' eggs, previously soaked until soft, may be added. Meal-worms are much relished, and when fed several times during the week, will do much toward keeping the bird in song. Ripe fruit and berries may also be given frequently in their season, but must not be permitted to remain in the cage after they have become stale. Utmost cleanliness and daily supplies of gravel and water will not only afford comfort to the bird, but will prevent an annoying complaint, that of sore feet, to which he is quite subject. Those who have been successful in keeping a Nightingale for a long time in confinement, are of the opinion that the diseases that are apt to end his career as a cage-pet are due to ignorance or neglect in feeding.

SKYLARK (*Alauda arvensis*). Scarcely less famous than the Nightingale, the Skylark is more generally diffused over the whole of Europe, and familiar to all classes. Unlike nearly all other songsters, his sweetest music is produced when flying. Leaving

the meadow's breast at the first intimation of the approach of the king of day, this sweetest of all matin minstrels cleaves the air heavenward, singing as he soars, until his form has disappeared from view. As a cage-bird the Skylark is a great favorite in Europe. He is remarkably hardy, a prime feeder, and quite docile. He sings well in confinement, but his cage should be adapted to his natural habits. One with a semi-circular and revolving front is especially manufactured for the Lark, and should always be procured for him. No perches are necessary, as this bird always rests on the ground. The roof of the cage should be covered by a cloth, in order to prevent this aerial songster from injuring himself, for true to his natural habits, he attempts at times to soar, but discovers in an abrupt manner that his surroundings are unfavorable to such sport. Green sod should be kept in the semi-circular apartment of the cage, upon which he will delight to rest and to warble his sweetest songs. The Skylark never bathes, and a bathing dish is, therefore, an unnecessary piece of furniture. Instead of a water bath, he loves to dust himself in fine sand, after the manner of domestic fowls, and thus, strange to say, he keeps himself clean and free from insect pests. His regular food is the Mocking-bird mixture, prepared with raw grated carrot, plenty of fresh veg-

etables, and some seeds. Insects he will relish at all times, and these may be given him quite freely, without fear of surfeit. Drinking water, of course, he needs fresh daily, and plenty of fine sand for his bath. His cage should be placed out of doors when the weather permits, as sunshine and fresh air will remind him of his native heaths, and thereby incite him to song.



BLACKCAP.

BLACK-CAP (*Silvia atricapilla*). This shy woodland minstrel has been termed the "Mock-nightingale," owing to the excellence of his natural song, and his mimic powers make him not an unworthy rival of the American Mocking-bird. He is a small bird, hardly larger than a Canary, his color being various shades of gray, except the jet black of the crown, from which he derives his name. The Black-cap is naturally a shy bird, frequenting orchards and gardens, where he obtains his favorite food, and except when feeding he seldom reveals

himself to the familiar scrutiny of man. His food consists of insects of all kinds and the various wild fruits and berries: he is particularly fond of elder berries, and such food in great variety should always be permitted him in confinement.

Under proper conditions, the Black-cap proves one of the most satisfactory of cage-songsters; few birds, however, require so much attention and care. When earnestly engaged in singing, he sits calmly and gives utterance to notes so sweet and well modulated that even the Nightingale might not be ashamed of them.

STARLING (*Sturnus vulgaris*). One of the commonest birds of Europe is the Starling, which is about the size of a small Blackbird. He is desirable as a cage-bird on account of his handsome plumage, docile manners, pleasing song, and his aptness to repeat short phrases and to whistle tunes. The plumage of the bird is dark, beautifully glossed by varying shades of green and purple, pale yellow spots marking the end of the feathers.

Some queer actions of the Starlings are described in the "Journal of a Naturalist" as follows: "They vastly delight, on a bright autumnal morning, to sit basking and preening themselves on the summit of a tree, chatting all together in a low, song-like note. There is something singularly curious and mysterious in the conduct of these birds previous to their nightly retirement, by the variety and intricacy of the evolutions they execute at that time. They will form themselves, perhaps, in a triangle, then shoot into a long, pear-shaped figure, expand like a sheet, wheel into a ball, as Pliny observes, each individual striving to get into the center, etc., with a promptitude more like parade movements than the actions of birds."

The Starling is generally insectivorous, but frequently partakes of grain, seeds, and berries; of cherries he is said also to be particularly fond. He takes readily to confinement, and so docile does he become that he may be allowed the liberty of the house, and he will amuse its inmates by the most ludicrous tricks and mimicking misdemeanors. Tunes he whistles almost as cleverly as the Bull-finck, and phrases, often of some length he will learn to repeat. Feed him regularly upon the prepared Mocking-bird food, as recommended for all soft-billed birds, but do not neglect to furnish him a supply of insects. No bird is less fastidious in his tastes, as he will partake of anything proffered him without grumbling about the character of his repast. Bathing he particularly enjoys, taking to water much in the manner of the duck, loving to fuss and splutter, thus wetting everything in the vicinity of the cage.

If it is desired to teach a Starling to whistle an air, it should be frequently repeated to him daily for two or three months, when he will be able to produce it with accuracy and finish. A young bird, of course, learns the easiest, sometimes acquiring several tunes which he is able to reproduce perfectly.



CHAPTER VII.

AMERICAN SONGSTERS.

THE birds of America are celebrated not only for the variety and excellence of their musical utterances, but for the beauty of their plumage. No songsters of any portion of the world excel them in either qualification. Bird-breeding and bird-trapping, however, have never been engaged in so extensively in this country as in the Old World, probably owing to the busy pursuits of our countrymen, who have not the time, even should they have the inclination, to care for and train cage-pets. The relative merits of native

and foreign songsters will probably never be decided satisfactorily, owing partly to national prejudices and partly to the widely differing characters of song represented. The American Mocking-bird, which is the acknowledged king of native musicians, has not only an attractive song of his own, but possesses mimie powers in such a high degree that even the notes of the Nightingale are correctly imitated. But both these birds differ widely in style and execution, making a comparison all the more difficult, if not entirely useless. Very many American birds might be enumerated which make worthy cage-pets, but owing to the limits of this work only the most prominent songsters will be described.

I.—SEED-EATING BIRDS.

GOLDFINCH (*Spinus tristis*).—The beautiful plumage of the Yellow-bird, or Wild Canary, his undulating flight, and agreeable twitter while on the wing, and his frequent visits to city gardens, have made him familiar to every one. His song is pleasing, though not powerful, yet similar in style to the Goldfinch of Europe. He makes his advent in the Northern United States early in the spring, frequently in small flocks, the males of which may often be heard in concert uttering their short, twit-

tering notes. Many of these songsters are trapped yearly, and few birds are more easily domesticated. They soon learn to love their new homes and their keepers, and show by their affectionate manner their appreciation of all favors. So docile will a Goldfinch become that he may be permitted to flit about the house manifesting no fear of the approach of any of its inmates. His ability to perform smart tricks is remarkable; for under competent instruction the most difficult of tricks are learned in a short time.

The food of the Goldfinch in confinement should be much similar to that of the Canary, with the exception that maw-seed and occasionally a few grains of hemp may be added to his daily supplies. The male Finch may be mated with the female Canary, but the progeny is not sufficiently desirable to warrant the trouble. The mating season of this bird is later than that of any other of our native songsters, as it is not until July that the first brood is reared. The nest is usually lined with the down of the thistle, and the seeds of the same plant furnish nutriment to the young birds.

INDIGO BUNTING (*Passerina cyanea*). Among the birds that return to their northern homes with the first appearance of congenial spring weather is the Indigo Bunting, and no bird is more welcomed by

those who love to study and admire the feathered tribes in their natural haunts. He is about the size of a German Canary, yet his handsome uniform of blue renders him a conspicuous object among the half-formed foliage of the trees. This bird is certainly one of the most delightful of our native songsters, his notes being sprightly, cheerful and frequent. The color of the female Indigo is a blue duller than the male's, and intermixed with russet, this being the plumage, also, of the young males. The Indigo is easily trapped, and submits readily to confinement. He will sing most of the year, the principal exception being during the moulting season. He is a very desirable bird for the aviary, as his beautiful blue plumage is in marked contrast with the ordinary hues of other songsters. He is a sociable bird, and learns easily many bird tricks, his sprightly musical qualifications rendering him a general favorite. His food should consist of the ordinary canary and millet mixture, together with a plentiful supply of insects, of which he is very fond. When well cared for he will live from seven to ten years in confinement.

NONPAREIL (*Passerina ciris*). The Nonpareil is the name of a handsomely plumaged bird, about the size of the foregoing species, found throughout the Southern States. He is also well known as the

Painted Bunting, owing to his many bright colors. Great numbers of these pretty songsters are taken by bird-trapping negroes of the South for the Northern bird-market. The bird is easily domesticated; in an incredibly short time he becomes reconciled to his new manner of life, and soon learns to accept flies and other insects from the hand. His regular feed should be canary-seed and millet in equal proportions, and being fond of insects, he should not be denied them. He is remarkably free from disease, and with plenty of sunshine, a daily bath, and a supply of gravel, he will prove to be a thing of beauty and a joy for—about ten years.



BOBOLINK.

BOBOLINK (*Dolichonyx oryzivorus*). Nature has no happier minstrel than the Bobolink. Watch him

frolicking with his fellows over yon clover-blown meadow, and listen to his ecstatic music as he circles through the air, then say if you have ever known such a personification of merriment. Like the Skylark, the Bobolink produces his finest songs when on the wing; but often, from amidst the foliage of an apple-tree laden with bloom, his wonderful music bursts forth

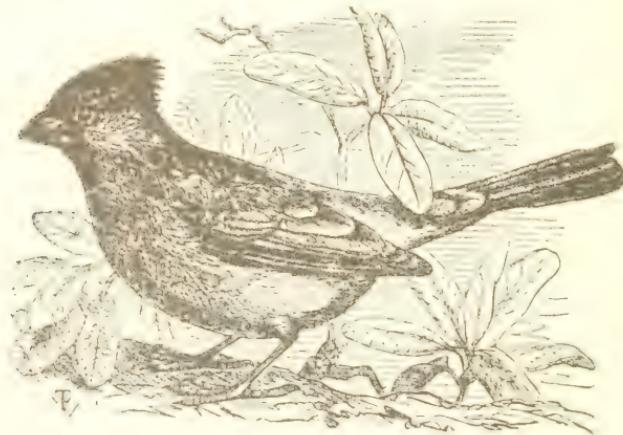
As if for a time a blossom rare
Had started to life and song,
To mount with the winds to the upper air
And die while floating along.

Early May witnesses his advent in Ohio, but in the New England States he is spoken of as a June arrival. He is found generally over the Eastern United States, immigrating early in the season to the South, where he feeds upon the rice crops of the Southern planter. There great numbers of Bobolinks, better known as the Rice-birds among the planters, are killed and served up presently to tickle the palates of epicures.

During the breeding season the male Bobolink differs essentially from the female. He is for the most part black, the hind head yellowish white; scapulars, rump, and tail-covers white, tinged with ash. His length is seven and one-half inches.

The Bobolink thrives well in a cage. He is a voracious feeder, and to prevent his growing too

fat to sing, only the simplest food should be given him. He should not be confined in a small cage, as that would afford him too limited means of exercise, and exercise he needs, and plenty of it. Gravel must be supplied him, and a daily bath. No dainties are permissible. His principal seed should be canary and unhulled rice, and these ought to be given only in limited quantities at a time. The Bobolink is perfectly hardy, living in confinement with proper care about as long as any other bird. On account of his gluttonous habits he is unfit for an aviary, as he would be sure not only to over-feed himself, but to rob his fellows of their daily bread.



REDBIRD.

CARDINAL GROSBEAK (*Cardinalis Virginianus*). The Redbird, as this Grosbeak is familiarly called,

is too well known to require description. In many homes in this his native country he is a great favorite; in Europe, also, he is admired for his beauty and his sprightly manner. His habitat is the Southern States and the country as far north as Central Ohio and Pennsylvania, being resident wherever found throughout the year. He is easily domesticated, and lives, if properly cared for, many years in confinement. He becomes greatly attached to the one who attends to him, manifesting the greatest pleasure upon being noticed or petted. In his wild state he is very pugnacious, this trait rendering him an easy prey to the snares of the trapper. No sooner does his keen eye notice the "call-bird" of his would-be possessor than he makes a rush at him, which too often for the Cardinal proves to be his last, since he quickly finds himself shut in behind prison-bars, a life prisoner because of his desire to fight. But woe to the unlucky hand that at such a time comes within reach of his powerful beak. This he sometimes uses to such good advantage that he often compels his captor to release him in alarm, thus affording him escape. The Redbird will breed in confinement, but being so quickly taken and so easily domesticated the trouble of breeding is not usually undertaken. The female is preferred by some to the male, as she is considered a good singer,

her voice being more mellow and sweet than the male's; the latter possesses a greater variety of notes, besides executing them with more spirit.

The Redbird requires a good-sized cage, which should be kept properly cleaned. He will enjoy a daily bath, and will execute a "song and dance" if treated to a meal-worm occasionally, or for a change, to a little grated beef. Too much of such food, however, will at times prove injurious. Feed regularly a mixture of hemp and canary-seed, together with unhulled rice or sunflower-seed. Bits of apple or of boiled potato will be greatly relished, and a regular supply of gravel for the bottom of the cage should not be wanting. The diseases of the Redbird are few, and, like all bird ailments, are due to neglect of sanitary conditions or unwholesome feeding.

BRAZILIAN CARDINAL. South America furnishes the bird-fanciers of the world with the Gray or Brazilian Cardinal, a beautiful, crested songster, much less brilliant than our own Cardinal, but resembling him in general characteristics. The plumage of this bird is considerably diversified, the head, crest and throat being a pronounced scarlet, the body below a greyish white, the back dark gray, the wings and tail darker shades of the same color. His length is about seven inches.

Although his musical talents are not of the highest rank, his song is melodious, not as loud as the Redbird's but filled by a degree of sweetness that is quite pleasing to the listener's ear. The transition from the warm atmosphere of the tropics to an abode in the cool temperate zone does not seem to affect the bird adversely; he is rarely found to be sick. His food is unhulled rice and canary-seed, a few meal-worms or insects being fed him occasionally. Water must be furnished him daily for bathing purposes, and plenty of gravel. His habits are very similar to those of the Redbird, and his general treatment need not differ from that of the latter species.

ROSE-BREASTED GROSBEAK (*Habia ludoviciana*). The habitat of this beautiful songster is the Eastern United States north to Southern Canada. It cannot be said to be altogether rare, but owing to its secluding habits it is seldom seen by casual observers. Deep woodland and secluded river banks are its favorite abodes, and there, unobserved by curious man, its wonderful song is produced.

The Grosbeak is one of the showiest of songsters, and respecting animation, his musical qualifications are said to surpass even those of the Mocking-bird. Although a desirable bird for the cage, the Grosbeak is seldom met with in confine-

ment. He is a voracious feeder, and like the Bobolink, frequently fills himself to satiety. To this cause his diseases, which are few, are principally due. Too much food, therefore, should not be given him at one time. Canary-seed, unhulled rice and hemp-seed may be fed for a regular diet, and occasionally some Mocking-bird food, a meal-worm, or ripe fruit, may be added to his usual fare. He enjoys bathing, and will continue to use the bathing-water as long as it remains in the cage. It is better to withdraw it as soon as he has undergone one thorough ablution.

II.—SOFT-BILLED BIRDS.

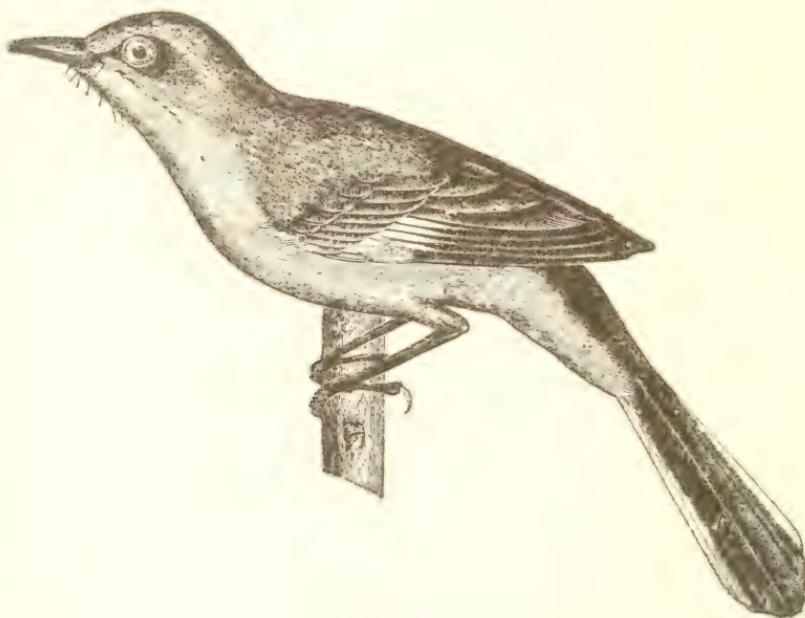
MOCKING-BIRD (*Mimus Polyglottus*). The Mocking-bird is a paragon in the musical world. In addition to his well-known powers of mimicry, his voice possesses an exquisite sweetness, while his sprightly and graceful form and intelligent manner fill the observer with admiration. He belongs to the great family of Thrushes, all of which are remarkable for their volubility and mimic powers. The home of the Mocking-bird is in the South Atlantic and Gulf States, where he breeds in great numbers. He is migratory as far north as Ohio and Pennsylvania, but his occurrence is rare north of the Ohio River. The female is remarkably like

the male in plumage, and in some instances, probably rare, has proved that she is not always an unworthy songster. She sometimes possesses the distinctive wing-markings of the male, so that even an expert fails to determine the sex of young birds correctly.

"To examine the wing of the Mocking-bird, to distinguish the sex, catch the bird firmly in the left hand, and extend either wing to the fullest extent with the right, looking at the wing on the upper side; the white coloring will be observed to be longest on the feathers nearest the tip of the wing; the extent of white coloring gradually diminishes on the feathers nearest the body, and in the case of the perfect-marked male bird resembles somewhat the segment of a circle, and in some localities has received the name of half-moon. The three longer primaries which have the white color will be found to have no dark markings, or splashings intermixed with the white. If the white markings are splashed or do not extend directly across the feathers, the bird may be a female. In rare cases, four of the feathers are unmistakably marked with clear white, and these are considered perfect-marked birds, and recognized as males to a certainty. The birds which have two feathers and a half clear, the two longer white-colored feathers perfect and a splash or dark mark, on the white on one side of the quill of the third feather, are generally males, though females are sometimes so marked. The white color on the feathers of the female bird will be found to be splashed and irregularly marked throughout."—*Holden.*

The Mocking-bird will breed in confinement, and the young are less shy than the captured birds on account of long domestication. In the South the young birds are taken from the nest when they are three weeks old, and fed by hand by their negro captors. Traps are set for those that have escaped capture in the nest. The birds are ready for the market in June, and may be supplied during the remainder of the summer. The full musical powers of the Mocking-bird are not developed during

the first year: indeed, it is not until the third year that he reaches the eminence of perfection. He should then be a prime musician. This bird is remarkably hardy, and with proper care will live to delight his owner for some twenty or more years. His requirements are not many, but they should



MOCKING-BIRD.

not be neglected if one would keep his pet free from disease. A large, roomy cage should be his domicile, kept scrupulously clean and free from draught, a plentiful supply of gravel being kept in the drawer. The bird should have a bath daily, and a sufficiency of fresh drinking water at all

times. He is a voracious eater, but this is natural, as he is a busy fellow, and busy fellows must have good food and plenty of it.

Most of the diseases to which the Mocking-bird is subject result from improper diet; care should be taken, therefore, not to neglect to feed the bird wholesomely, and not to permit his drinking water to become stale. Feed daily the prepared Mocking-bird food mixed with grated raw carrot. For variety, there may be fed occasionally a mixture of hard-boiled egg and potato in the proportion of two parts of potato to one of egg. Ripe fruits and berries are much relished by the bird, and are beneficial. Soaked ants' eggs, which may be obtained from dealers, meal-worms, insects and spiders form a very rich and nourishing addition to the diet. These are always welcomed by the bird, but they should not be given too often.

As has been said above, the diseases of the Mocking-bird, as well as those of caged songsters in general, are due to neglect. Prevention of such troubles will be found to be always better than a cure. Constipation may be relieved by feeding plenty of fresh green stuff, insects and meal-worms for a few days. If this does not afford relief, give a few drops of castor oil. Diarrhoea, which is generally caused by foul drinking water or stale food, yields to a change of diet, for a short period, to

crusts of bread soaked in boiled milk, and a scanty supply of insects and other dainties during the continuance of the trouble. The pip is an annoying and dangerous trouble, usually caused by taking cold. If your bird does not sing and refuses to feed as usual, catch him and examine his tongue. There may be found on it a horny scale, which must be removed with great care. Commence at the base of the tongue, and by means of a blunt knife or finger-nail, peel off the scale towards the tip of the tongue. A few drops of glycerine then placed on the tongue will serve to heal it.

BROWN THRASHER (*Harporhynchus rufus*). In the Northern States the Brown Thrush, or Thrasher as it is called, is a worthy rival of the Southern Mocking-bird. The powers of mimicry of this bird are certainly remarkable. Perched on a high branch of a tree, he may often be heard uttering his mellow cadences, making his notes resound for a long distance. In color he is attractive as well as in song. His back and tail are of a reddish-brown, his under parts white, the breast being thickly spotted with black. The colors of the female are somewhat duller, and the spots fewer and less distinct upon the breast. The Thrasher has arrived in his northern abodes early in May; thick underbrush is his favorite resort. While not

so shy as some species of his family, he is nevertheless not anxious for observation, and whisks away into the brush whenever any intruder upon his solitude presents himself. He may be distinguished from the Wood Thrush, which he much resembles, by his great length, that being not less than eleven inches, while that of the Wood Thrush does not exceed eight. Like the Robin, his favorite hours for singing are the early morning, when the rays of the coming king of day are wreathing the forest tops, and the evening, when the setting luminary is laying his rosy fingers in benediction upon the woodland monarchs. This Thrush is seldom seen caged. Why this should be so it is not easy to see, as few birds certainly present greater attractions, and few, if any, can excel the Thrasher in intelligence. The best birds for the cage are those taken from the nest and fed by hand until large enough to attend to their own wants. The nest is usually found in a heap of underbrush, the young being four to six in number. The habits of the Thrasher are similar to those of the Mocking-bird, and his treatment differs in no way from that of the latter species. The largest-sized Mocking-bird cage should be selected for him.

WOOD THRUSH (*Turdus mustilinus*). This Thrush is known to every student of bird-life as one of the

sweetest of woodland minstrels. Naturally shy, he is to be found only in thickly wooded places, where his sweet voice is sure to be heard even if his form remains unseen. In appearance he is much like the preceding species, his length being between seven and eight inches. He possesses fine natural powers of song, in addition to which he is an accomplished mimic. Morning and evening are his favorite periods for singing, yet frequently through the day his voice may be heard ringing through the woodland. When caged, the Wood Thrush should be given the same treatment as the Mocking-bird, and a small-sized Mocking-bird cage is best adapted for him.

CAT-BIRD (*Galeoscoptes carolinensis*). Every visitor to the country becomes acquainted with the dark-plumaged, garrulous Cat-bird, who inquisitively introduces himself, time after time, with his quaint *mew*. Any loud or unusual noise, instead of driving him farther away, brings him nearer, like an inquisitive busy-body who wants "to know, you know," all about the matter. Every school-boy knows him and threatens him, every farmer despises him and molests him. He is very fond of the farmer's cherries, and is not averse to taking a bee now and then; so his life must be forfeited quite often for such misdemeanors. But if the

farmer would pause to consider that the Cat-bird, and some other birds as well, devours many insect pests during the year that would otherwise destroy more fruit than many birds could possibly consume, he might learn to regard this innocent and sociable bird as one of his best friends.

The Cat-bird is a very good songster, his notes resembling those of the Thrushes previously described, and although seldom seen caged, few birds prove more satisfactory as cage-pets. Whether in his wild or domesticated state, he never exhibits fear on any account, seeming perfectly trustful in the good intentions of all comers. The regular Mocking-bird cage is best adapted for him. His food should be the regular mixture, fed with grated raw carrot, in addition to which give plenty of insects and occasionally some bits of raw beef. Plenty of fresh ripe fruit is also essential, berries in their season being particularly relished.

SCARLET TANAGER (*Piranga erythromelas*). The most gorgeous songster of our continent is without doubt the Scarlet Tanager. If his song is given an inferior rank, his beauty cannot be called in question. His size is about that of the Wood Thrush, his colors scarlet and black, the wings and tail being of the latter. The female is a clear olive-green, below clear greenish-yellow, wings and

tail dusky, edged with olive. The colors of the male undergo a transformation in the fall, becoming much like those of the female. This bird may be frequently seen in sunlit woodland and along the banks of streams during the early part of May, but soon after he retires with his mate to unfrequented woods to breed. His ordinary note is a sharp "chuck," easily distinguished from the utterances of other birds. His song, which is heard more frequently during the breeding season, consists in a succession of warblings similar to a Robin's, wholly unpretentious but not unpleasing. "His song is given," says a writer, "after the manner of a ventriloquist: for although he may be at a considerable distance from you, the notes appear as though coming from a point directly above. This is, no doubt, a power bestowed on him as a protection from the danger to which his brilliant colors expose him."

The Tanager should be confined in the regular sized Mocking-bird cage, and fed the prepared food in the usual manner. Ripe fruits, figs, and dried currants after being moistened with water, may be supplied abundantly: ants' eggs and meal-worms are always relished and beneficial. Highly plumaged birds have usually tender skins, and are very susceptible to changes in temperature; it should be seen to, therefore, that a sufficient warmth, par-

ticularly in winter, is maintained where the Tanager's cage is hung. With a good supply of food in variety, and a proper attention to hygienic conditions, there is little reason why the Tanager can not be kept as long as other birds.



BALTIMORE ORIOLE.

BALTIMORE ORIOLE (*Icterus galbula*). In point of beauty the Scarlet Tanager is not far in advance of the Oriole, or Golden Robin as it is sometimes called, certainly one of the most interesting birds of our American fauna. The lively whistle of this bird as he flits from branch to branch of sunlit trees in search of dainty morsels, is sure to please the ear, while his dainty form delights the eye. The latter part of April witnesses his advent, and

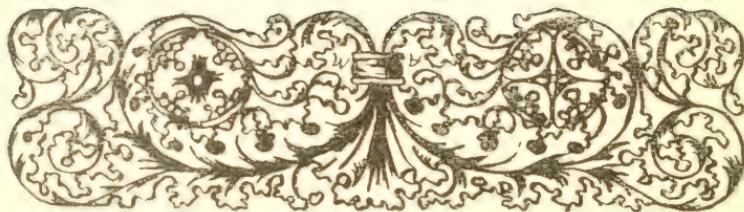
from that time throughout the summer he is to be met with along the borders of streams and in open woodland. The nest of the Oriole is hung from the end of the branch of a tree, often at a considerable height and usually over water. The young are therefore difficult to take, although occasionally an opportunity might be given to acquire them. The colors of the Oriole are black and orange; the head, throat, wings and middle feathers of the tail are of the former color, the lower part of the back, breast and under parts being of the latter. The colors of the female are dull and unattractive. The song of the Oriole consists of a few whistled notes frequently repeated as he flies abstractedly among the green foliage of the trees. He feeds upon the tender buds and upon a variety of insects that he finds infesting the branches. His food in confinement should be the Mocking-bird mixture and the usual supply of meal-worms, ants' eggs, and, in fact, almost all varieties of caterpillars, bugs and beetles. These are essential to his welfare, as they form his principal food in his wild state, and if not supplied with them regularly, he is apt to languish and die.

ORCHARD ORIOLE (*Icterus spurius*), is a near relative of the Baltimore, and likewise an excellent songster. His colors are black and chestnut when

his plumage is perfect. His habits are similar to those of the preceding species, and his food and treatment in confinement are likewise the same.

TROOPIAL (*Cassicus icteronotus*).—South America furnishes bird-lovers with the handsome Troopial, which reminds one of our Baltimore Oriole, although the size of the former much exceeds that of the latter. The head and throat, the wings, and a portion of the tail are black, while the body is orange. The Troopial is easily domesticated when taken from his forest home, and soon becomes a great favorite with his owner. His food consists principally of fruit, insects, and dainties of all sorts, as he is a gluttonous feeder, his fondness for rich food being frequently a cause for future ailments. The feeding of the Troopial should be much like that of the Mocking-bird, the prepared food being furnished him daily, mixed with grated carrot. Ripe tropical fruit, such as bananas and oranges, and occasionally spiders and meal-worms, should be given in variety. A large-sized Mocking-bird's cage is the best for him, but he soon learns to make himself at home if permitted the freedom of the house. Bathing being a favorite occupation with the Troopial, a plentiful supply of water should be furnished daily for that purpose. He is subject to few diseases if properly cared for,

and will live for many years in confinement. The natural song of this bird is rich and mellow; although his notes are not many, they are quite agreeable. He has a retentive memory, and soon learns to repeat a tune whistled or played to him on a flute or other instrument.



CHAPTER VIII.

TALKING PETS.

THE well-known ability of many birds to imitate the sounds of the human voice has made such for all time a favorite class of household pets. Some possess this power in a very high degree, while others are capable of having a few words only fastened upon their abstruse brains.

Two distinct classes of birds manifest the power of articulation with more or less intelligence, viz.: the *Psittacidae* or Parrot family, and the *Corridae*, to which may be added the *Sturnidae* or Starlings, some of which are quite capable of instruction. The first-named family comprises the Parrots and Paroquets, Cockatoos, Macaws and Lories; to the second belong the Crows, Ravens, Rooks, Magpies and Jackdaws. The common Starling of Europe and the Talking Minor of Asia, which is classed as a species of *Sturnidae*, often prove themselves quite proficient in a conversational way.

I.—PSITTACIDAE.

PARROTS AND PAROQUETS. No birds are generally recognized as so apt to reproduce the sounds of the human voice as the Parrots, a genus that comprises

many species inhabiting various parts of the globe. The favorite habitat of the true Parrots is the luxuriant regions of the torrid zone, but some species are to be met with fully forty-five degrees of latitude from the equator, both north and south. They are known to be long-lived birds, usually moving in flocks, and feeding upon the seeds and fruits of tropical plants. When taken young the Parrot submits readily to confinement, and soon becomes

a spoiled pet of the household. Great numbers of these birds are captured during the breeding season by the native bird-hunters, and shipped to the various countries in which there exists a demand for them. They reach our market in the early fall when the birds are some five or six months old, and are sold at prices varying in accordance with kind and



PARROT.

intelligence. The difficulty of distinguishing male from female Parrots is very great; both birds are the same in size and coloration, and are equally capable of being taught, so that only an expert can approach to any knowledge in this regard. It is possible on this account that every Parrot is called "Polly," but why "Polly" should

always "want a cracker" is not so easily explained. Parrots are seldom bred in confinement, yet there is no reason to doubt that breeding could be successfully accomplished if proper arrangements were made for the purpose. In their native state they form nesting settlements in some inaccessible places, and make their nests in holes in trees, excavated, possibly, by friendly Woodpeckers or by the females themselves. The parent birds are strongly attached to their young, and will fight lustily for their protection.

Parrots learn to speak just what they are accustomed to hear, and their memory in recalling words heard possibly months before they are repeated, is truly remarkable. After being placed under instruction, from four to twelve months usually elapse before a bird essays to talk. It takes a long time, it seems, for the bird to make up his mind to venture upon such a remarkable career as that of an orator, but when he once does so he adds to his vocabulary almost daily some new and startling expression. The stories told of Parrots are no doubt often exaggerated, but instances are authentically vouched for in which these birds have made use of expressions with little less than a human understanding of their significance.

A lady once owned a Parrot that was very fond of pickles, and no opportunity was lost by it to

pilfer them if they could not be otherwise obtained. For such misdemeanors he was scolded and whipped time after time, but still his evil propensities continued. One day, being caught by the cook in the very act of abstracting his favorite morsel from the pickle-dish, that highly irate person threw at poor Polly a pailful of scalding water. Incensed at such shabby treatment, the Parrot sulkily refused to be petted or to have anything to say. To make matters worse, all the feathers on the head dropped off, until Polly was decidedly bald. Several months elapsed, and the lady thought that the bird had ceased to speak forever. One day the new clergyman called at the house, and upon removing his hat, disclosed a very bald head. At once the Parrot strode from his corner, eyeing the newcomer with evident curiosity, then, to the astonishment of all, burst into a loud laugh and exclaimed: "*Oh, you're been stealing pickles, too!*"

The amount of instruction that some Parrots are capable of receiving is almost without limit. Very much, however, depends upon the trainer's ability to instruct, and not all persons are suited for this employment any more than all are suited to become teachers of children. The voice of the trainer should be pleasant, but clear and ringing, and his manner gentle. If the bird under instruction does not learn in a week or a month, or six

months or a year, the patience of the trainer must still be inexhaustible. Parrots have been known to remain mute for many months in apparent stupidity, then suddenly, to the surprise of all, enter upon a remarkable career of loquacity. Gentleness, by all means, should characterize the trainer's methods. When the bird sees no harm is intended it, and that it need not be on the outlook continually for an expected cuff, its confidence will be established, and it will acknowledge its keeper with an affectionate regard.

It is best to cage or chain a Parrot, for when allowed the freedom of the house food is apt to be found that is unwholesome; besides, Parrots make better talkers when kept behind the wires of a cage, most of the time at least. The usual size of cage is one about fifteen inches in diameter and two feet in height. A plentiful supply of clean gravel should be furnished, both for eating and bathing, as this class of birds cleanse their skins in the sand rather than by water. The cage should be kept scrupulously clean, receiving a thorough ablution with soap and water every few days. Although Parrots do not bathe in water, it will be found best, at least once a week, and oftener in warm weather, to sprinkle over your bird a quantity of soft water slightly heated, in which may have been dissolved a thimbleful of borax.

A substantial diet of wholesome grains is best for this class of birds; withhold dainties from the table and rich, oily nuts, greasy animal food and the like. Feed your own Parrot if you would have him to live the full time of a Parrot's life. The proper seed mixture is composed of equal parts of unhulled rice, hemp, sunflower-seed and crushed corn, and occasionally a few peanuts may be given. Ripe fruit in moderation is beneficial, as are also bits of mealy potato, a crust, or pieces of dry toast, and there is no objection to administering a "cracker" if "Polly" really "wants" it. But let it be strictly seen to that the bird is not given meat, butter or grease of any kind, as such food will always work mischief. Parrots use but little water, but they should always have access to fresh drinking water if they want it. Sometimes coffee is substituted for water; this is beneficial in some cases, but some birds will be found that do not like it, and prefer fresh water. Some bread soaked in milk, and sprinkled with a little sugar, may be given once a day, but this should be removed when the bird has had all it desires. Young birds should be given liquids sparingly until thoroughly acclimated. Enough moisture can be obtained from the prepared foods that are furnished them. Green Parrots are particularly subject to disease from over-drinking. Bread soaked in

water, and squeezed lightly before feeding, is good for them, but sometimes the bread when soaked in coffee is better relished. You may give your bird a drink once a day, holding the cup in your hand, and not permitting too great an indulgence. After a time, if no bowel trouble appears, water may be similarly furnished twice a day, and finally, when the bird can be considered fully acclimated, fresh water may be placed in the cage, from which the bird can drink at his pleasure. Young Parrots cannot eat the hard seeds recommended for adult birds. A good food is prepared by pouring boiling water over rice and leaving it on the fire for ten minutes. Place in a collander, and after boiling water is drained off, pour over the rice a quantity of cold water, thus washing off the starchly matter on the surface of the food, which would cause some of the food to adhere to the bird's beak. Hard-boiled egg, mixed with bread moistened in water, is good, nourishing food. All such preparations readily become sour, especially in warm weather, and should always be removed when the bird has eaten all he desires.

Parrots are subject to some diseases which are mostly due to improper feeding. Judging from the number of these birds that find their way into the hands of the taxidermist, we may be sure that a good per cent. of them do not live the allotted

years of Parrot-life. Like the ailments, however, of other cage-pets recited elsewhere at some length, the troubles to which Parrots are subject arise from neglect or the feeding of injurious substances. If it is noticed that a bird is plucking out its own feathers, it is certain that the blood of the bird is in an inflamed condition from over-feeding, or the use of greasy food or meat of some kind. Cease feeding such substances at once. It is sometimes the case, however, that the plucking of feathers is induced by the presence of parasites upon the bird's body. The cage should be thoroughly inspected, and if any signs of lice be found, let a thorough cleansing be at once given. Catch the bird and dust it with German insect powder under the wings, and around the neck and head in particular.

For costiveness a bread-and-milk diet may be given, and plenty of fresh fruit fed for a few days. If this is not sufficient, a few drops of castor-oil dropped into the bird's throat will usually give relief. Diarrhoea is caused by sudden changes in diet or the feeding of stale food. A few drops of paregoric may be effectually given, and the drinking water should contain some rusty iron. In all ailments return to a hygienic diet, keep the bird clean and warm, and nature will do the rest with her healing balm.



GRAY PARROT AND COCKATOO.

THE GRAY PARROT (*Psittacus erithacus*) ranks at the head of all talking birds. His speech is remarkable for its volubility and the distinctness of articulation. The home of this bird is on the western coast of Africa, whence he is brought by captains of trading vessels, who obtain supplies of birds from negro captors. During the first year the bird is very dark in color, but at the age of two years he has adorned himself in his modest coat of

gray and scarlet, the body being of the former color and the whole tail of the latter. The Gray Parrot is probably the longest-lived of any of the family, some authors affirming a knowledge of birds at least one hundred years of age. He is an expert talker, can often whistle a tune accurately, and in some instances has learned to sing popular songs.

THE MEXICAN DOUBLE YELLOW-HEAD PARROT ranks next in favor to the Gray, and is the leader of the numerous tribes of green Parrots found the world over. Some lovers of birds, indeed, prefer the Mexican to all other Parrots, not excepting the Gray, the voice of the former being characterized by more softness and cadence. He is the best singer of his tribe, often being able to sing through several songs with finish and operatic accuracy. This Parrot is seldom trapped, but is taken from the nest and reared by hand; consequently there is not the natural wildness to overcome in submitting the bird to domestication. Naturally he learns more quickly on this account.

The size of the Mexican Parrot is somewhat greater than that of the Gray, his length being about fifteen inches; his color is a beautiful green, red and blue feathers appearing in the wings and tail; the forehead is characterized by pale orange,

which, as the bird grows older, extends backward over the head, thus giving him his name.

Next in rank to the preceding species is the AMAZON PARROT (*Psittacus Amazonius*), a bird of great beauty and withal an excellent talker. The length of this bird is about fourteen inches, his color bright green with the feathers marked by dusky or blackish margins: there is a bright red patch on the wings, usually bounded by shades of blue, green and yellow, which colors are only completely visible in the expanded state of the wings; the tail feathers are green, but appear red beneath the base when expanded. A bright blue band reaches from eye to eye, beyond which the feathers of the crown, cheeks and throat are of a jonquil yellow: the legs and feet are either dusky or of a pale grayish brown. The Amazon Parrot displays considerable intelligence, learning to whistle and sing quite acceptably: his rank, however, is decidedly inferior to that of both the Gray and Mexican Parrots.

THE SINGLE YELLOW-HEAD PARROT is some twelve inches in length, and nearly resembles the Mexican Parrot in color, the yellow of the head being confined to the forehead, hence the name in distinction from that of the Double Yellow-head. This bird

does not command the price of the Mexican, his capacity for learning to talk being of an inferior order to that of all preceding species.

The Parrot most met with in the markets of the country is the CUBAN, a small but interesting species found abundantly in the West Indies, and taken from the nest before being fully fledged. Cuban Parrots are imported into the United States in large numbers when from three to five months old, and owing to their cheapness and general docility, usually find ready purchasers. In intelligence the Cuban is about equal to the Amazon Parrot, and even surpasses that bird in his ability to talk, taking, also, a foremost rank as a singer. He is quite hardy, very tame, and possesses a beautiful green plumage. All things considered, he is one of the most desirable pets of his kind, the price at which he is sold in our markets placing him within the reach of those bird-lovers whose conditions in life make impossible the possession of high-priced Parrots.

Equally desirable as a cage-pet is the DWARF PARROT, which is found plentifully in South America, a diminutive species of the Parrot tribe, differing in no essential particular from the foregoing varieties except in size. The prevailing

color of this Parrot is green, slightly modified into lighter shades on the throat and under parts. His length is about seven inches. This bird shows extreme docility, and takes a front rank among household pets. He learns to speak in a small, flute-like voice, performs amusing tricks, and displays the utmost affection for his keeper. When kept with a mate, as is frequently the case, he showers upon her all the devotion of a loving heart. He seems born to caress and be caressed. When separated from his mate the affection displayed for her is given to any who befriend and pet him. The freedom of the house may be permitted him, as he destroys nothing and does not seek to gain his liberty. The Dwarf Parrot delights to bathe in water, unlike all others of his race. His food consists of fruits and seeds, the best seed for him being canary and hemp. Sweet apple, bits of banana, and the like, are much relished, and necessary for the maintenance of health.

The Dwarf Parrot is sometimes confounded with the PAROQUETS, a numerous class of birds belonging to the great family of *Psittacidae*. Asia and Australia are the homes of these diminutive and beautiful birds, those from the latter country being more frequently imported. The body of the Australian Paroquet is hardly larger than a Canary's,

but the tail being long and graceful makes the extreme length of the bird from nine to ten inches. Paroquets do not learn to talk, and, indeed, are very difficult to train. Being kept in pairs, they seem perfectly unconscious of everything save their own existence; and so fond are the birds of each other that if separated they will often mope and die.



PAROQUETS.

When once properly acclimated Paroquets are hardy birds, withstanding great extremes of heat and cold. Canary-seed is the food most essential for them; to this may be added a quantity of millet. Dainties are not relished as usual with most

birds. On account of their affectionate disposition the term "Love-birds" has been generally applied to all Paroquets, but this name properly belongs to a species derived from Africa. This may be distinguished from the Australian Green Paroquet by having a bright orange color on the head, the general color of the body being green, while spots of orange and black characterize the tail. The length of this species is about six inches. All Paroquets make excellent aviary additions, and as attractions for the sick room, cannot be excelled.

MACAW. This large and beautiful species of *Psittacidae* is well known to all lovers of birds. He is easily tamed and soon learns to talk, and if one can withstand his squawk, which explodes at times with dynamitie force, he may become a favorite pet. When hungry he does not hesitate in the least to let one know that it is a "long time between drinks" or meals, and does it so forcibly that if any peace is desired one must accede to his desires. He possesses a powerful beak, with which he is equally capable of demolishing a favorite piece of furniture or of making any intruding hand feel as though it had been struck by a buzz-saw. The bird lives to a very old age, an instance being on record of one that lived in a royal family for one hundred and fifty years.

Several varieties of Macaws are well known to dealers. One of the largest as well as the most splendid is the SCARLET MACAW (*Macrocercus macao*), the prominent colors of which are scarlet on the head, neck, breast, belly, thighs, upper part of the back, and lesser covert feathers of the wings, and blue, yellow and green on the remaining parts of the wings, back and tail. The BLUE AND YELLOW MACAW (*Macrocercus ararauna*) is less common than the Scarlet, but about equal in size. The GREEN MACAW (*Macrocercus severus*) exists in great flocks, which are very destructive to coffee plantations.

Cages are seldom used for these birds, but when they are employed they should be quite commodious and very strong. An iron T stand set on a circular zinc base is more appropriate: the base should be kept covered with clean sand. The food of the Macaw is very similar to that furnished for Parrots, although more latitude may be permitted on account of the hardy character of the bird and his lusty demands for food which are not to be resisted. He thrives well on bread and milk, nuts, corn and fruits. Greasy food and sweetmeats are wholly out of place in the bird's *menu*, and if permitted will produce a skin disease which causes the bird to pick his own feathers, and thus ruin forever his beautiful plumage. Give the bird a bath, if in summer, by boldly showering him; in winter, when

more care is necessary to prevent coldness, use luke-warm water, and keep the bird in a warm place to dry.

COCKATOOS. Fully as interesting and possibly more beautiful are the white and delicately tinted Cockatoos, whose native home is in the forests of Australia and the surrounding islands. These become very good talkers when properly domesticated, and are capable of learning some interesting tricks. Their treatment is similar to that of Parrots, stands being preferred to a cage for confining the birds. The most remarkable feature about the birds is their beautiful crests, which they raise and lower at will. They are exceedingly friendly to their daily acquaintances, but shy of strangers.

LORIES are an interesting branch of the Parrot family that seldom, however, learn to talk. They are prized for their beauty and for their gay and sprightly manner, even in captivity. All of these birds are very handsome in appearance, their plumage being soft and downy. They get their name, it is said, from frequently repeating the word "Loro"; in like manner the Cockatoo is named from his natural utterance. The food and care of the Lory is similar to that prescribed for all Parrots.

II.—CORVIDAE.

One of the most remarkable of the families of birds is that of the *Corvidae* or Crows. The species embraced in this division are quite numerous, and are found in all parts of the world. Black is their characteristic color, but many present beautiful variations in plumage that are highly pleasing to the eye. A most remarkable feature of this family is the fact that many of the species are capable of learning to speak with great distinctness and accuracy; thus the most gifted members of the family have become great favorites in the household. In addition to their well-known talking proficiencies, they are capable of performing many amusing tricks, by which their values are considerably increased. The birds of this class, however, are natural-born thieves, and will frequently convey valuable articles to certain hidden nooks, where, perhaps, they may remain undiscovered for a long time. The Magpie is particularly proficient in the art of pilfering, and many an article from a lady's *boudoir* has been given up as forever lost, when some fortunate moment reveals it deposited in her Magpie's treasure-cave. The most prominent birds of this family are the Raven, Rook, Magpie, Jack-daw and Crow.

RAVEN (*Corvus corax*). This is a bird of beautiful symmetry, glossy plumage and stately demeanor. He is widely distributed, and is the largest of his class in most parts of the world. In color he is a deep black, with varying shades of purple and green. The great breadth of his tongue renders him able to pronounce words easily, and these he sometimes learns in variety. In times of superstition the Raven was ranked among birds of ill-omen, and even the very modulations of his voice were studied and noted in order to understand the direful calamity that was presently to affect mankind. He shares very well the ill-repute of the owl and the bat. Says Scott:

“ Birds of ill-omen, dark and foul,
Night-crown, Raven, Bat and Owl.”

As the days of darkness pass away, and men learn to regard all natural objects in their proper light, the absurdity of such superstitions becomes apparent. We can then admire the once hated and despised bird for his natural beauty and his intelligent demeanor. As a domestic bird the Raven cannot fail to amuse and please. He is active, everlastingly prying into everything that attracts his attention, pilfers and conceals whatever he covets, makes friends with the dog, plays a sly trick upon pussy, and ingratiates himself into the favor of the cook, from whom he expects some

dainty morsel. His natural food is carrion, but he frequently kills rabbits or chickens, and sometimes will attack young or sickly lambs. He is a voracious feeder, and will always be found ready for anything from the table that is allowed him. The Raven may be confined, but will take care of himself if turned loose, remaining about the house just as the dog or the cat will do, and always turning up at meal-time for his regular portion. The cutting of the string of this bird's tongue, in order to facilitate the articulation of words, is a needless performance, and must be regarded as a foolish, ancient custom.

Crow (*Corvus Americanus*). This bird is better known in this country than the Raven, being found abundantly over the whole of Eastern North America. His length is not over a foot and a half, his color being a deep black. If taken from the nest and reared by hand, the Crow is capable of ready domestication. He does not learn to talk as well as the Raven, but will perform many amusing tricks. As a pilferer he will fairly dispute the palm with the other members of his family. His natural food consists of a great variety of substances, both animal and vegetable. On account of his fondness for sprouting corn, he is particularly detested by the farmers, who plan many a means

for destroying him, but no bird knows better how to take care of himself than he. He is not, however, so harmful to agriculture as some suppose, as he consumes a great quantity of grubs, mice, insects, etc., which molest the growing crops. Generally the habits of the Crow differ little from those of the Raven, and his treatment in the household may be similar to that given to the latter bird.



ROOKS.

ROOKS and JACKDAWS are the most common birds of this class throughout Europe. They are much smaller than the foregoing species, and possess

many traits to recommend them as household pets. They are, however, seldom met with in this country, and any detailed description of them is unnecessary. Their treatment differs in no essential particular from that of the Crow. When kept confined, only the largest-sized cages obtainable are fit for these birds. It is better to allow them the run of the premises, as they can take care of themselves and never seek to go away. They will be sure to turn up punctually at meal-time.

MAGPIE. This bird is rather remotely connected with the foregoing varieties, and is found in most parts of the world. The American Magpie is a native of Western North America, where he is found in great numbers, and bears a bad reputation for his sly, pilfering habits. He is a beautiful bird, with a long, graceful tail, whisking himself about with a jaunty grace. When domesticated he becomes almost a positive nuisance on account of his familiarity. He amuses by his buffoonery and delights with his apt remarks. As a pilferer he is without a rival; many a shining trinket he delights to conceal, and many an article of value has been traced to his den. To be taught to speak, a Magpie should be taken from the nest and reared by hand. Words and short sentences may be easily taught, but the tones of the bird are usually too

sharp and shrill to perfectly imitate the human voice. A great variety of food may be given the Magpie; scraps of meat or bread will be relished, and what he does not eat will be hidden for a future meal. The Mocking-bird food may be fed him regularly as his principal article of diet. The bird does not require confinement, except occasionally as a punishment for some bad trick, or as a means of restraining too much familiarity. He is subject to few diseases, and will live usually from fifteen to twenty years.



CHAPTER IX.

THE AVIARY.

THE liking that some persons have for birds is fully satisfied when they possess one or two specimens; others, however, find their greatest pleasure in ministering to the wants of many of the feathered minstrels. If one has the time and inclination to attend properly to the daily needs of an aviary collection his efforts will certainly be well repaid. It will not do, however, to own a number of birds and shirk the daily necessity of taking proper care of them.

All birds are not equally suitable for such a purpose. Some are of a quarrelsome disposition and therefore ineligible; others are too greedy and would devour more than their share of the daily allowances. Small birds are usually to be preferred to large ones as a matter of course, but much depends upon the space allotted to the collection when the size of the birds to be admitted is under consideration. A very large collection of living birds would require nearly the entire time of a single person in caring for their wants, and such collections are seldom met with. If a well-

situated conservatory can be utilized for the purpose, the effect will be most beautiful and striking. Strong sunlight would be objectionable, but such could be properly modified. Good ventilation would be at all times a necessity, and yet draughts of air should be constantly guarded against. Nothing would prove more disastrous to the bird-life within than currents of cold air surging through the room. Small fir trees should be tastefully placed here and there throughout the space, together with such other sturdy plants as good judgment allows. Rustic perches may be next appropriately arranged so as to make the room as suggestive of outdoor life as possible; it will be better, however, to remove the bark from the perches, leaving only the plain, smooth wood surface, such removal being necessary to prevent the accumulation of lice or parasites of any kind. Nesting places are to be provided for in sequestered nooks, and material for lining such furnished in abundance for the birds. Deer's hair is best for this purpose, but any soft, fibrous material will suffice. Cotton and wool are objectionable as the fibres are tough and long, on which account they frequently entangle the bird's feet, sometimes seriously, before the matter is discovered. If a fountain or a running rill of water can be placed in the interior of the aviary, it will prove highly bene-

ficial as well as pleasing, as the water may be utilized for both bathing and drinking at the pleasure of the birds. Plenty of fresh gravel and some bits of old plaster must be kept about the floor; some fresh sod will also furnish much amusement to the occupants, who delight to rest upon it and for fun's sake tear it into shreds.

Food of a proper kind should be furnished in variety; the kind to be determined by the needs of the birds as explained in the descriptive matter elsewhere. Some birds are of such a greedy disposition, like some persons, that they would fill themselves to satiety, if access to quantities of food were given, thus doing themselves a positive injury besides robbing their mates of their proper allowance. Such birds should be excluded from the collection; the Bobolink is fashioned after this manner, as is also the Rose-breasted Grosbeak. Various conveniences for making the life of the birds happy will suggest themselves to one who is interested in his collection. Let no one owning such an aviary attempt to shirk the responsible duty of keeping everything neat and clean, else an endless amount of trouble may ensue. Parasites will form to make both bird-life and man-life miserable; cleanliness and proper ventilation are effectual preventitives for such a condition.

If an aviary on such a large scale is not desira-

ble, a much smaller one may be arranged by using a large cage, say from four to six feet in length and proportionately broad and high. This will accommodate, of course, a smaller number of birds, and the smallest-sized birds only would be admissible. In such a collection might be placed the English and American Goldfinches, Bullfinches, Linnets, Canaries, Nonpareils, Indigoes, Japanese Robins, Java Sparrows, African Love-birds, Australian Paroquets, and the interesting family of Finches and Nuns that are brought to this country in great variety from Africa and Australia. To a larger collection may be added such birds as the Virginia Cardinal, Scarlet Tanager, Brazilian Cardinal, Chaffinch, Lark, Sparrow, Thrush, etc. Many of the birds here named have been already described as cage-pets, while a few remain to be noticed in this connection.

JAPANESE ROBIN. This is certainly one of the most interesting birds ever subjected to domestication. He is beautiful in plumage, sprightly in manner, and a lively and engaging songster. His size is about that of a Canary; his eye is particularly large and brilliant. This bird is said to be quite common in the countries of the extreme East, and a favorite with the natives. The rapidity of his movements in a cage is most remarkable; no

other bird darts with such lightning-like speed. He delights in somersaults and evolutions of all sorts and so sprightly are his motions that the eye can hardly follow his gliding form. He becomes very tame, readily learns tricks that can be taught to any other bird, and is ever ready to delight his mate with some new whistle or melody.

Insects and worms are the natural food of the Robin in his native state. When confined, the prepared Mocking-bird seed is proper for him. Insects and meal-worms may be given occasionally, and some ripe fruit. A bath once a day should not be neglected, as this bird is fond of playing in water. He is one of the most suitable birds for the aviary, but may be given a cage to himself. This, on account of his active movements, should be a commodious one.

JAVA SPARROW. Although not a songster of any note, this Sparrow attracts much attention on account of his pretty and compact plumage. His length is about that of a Canary, his beak stout and delicately tinted; the general plumage is of a slate color, the cheeks being pure white, the throat and face a shining black. Java is the home of the bird, where, it is said, he is as great a nuisance as the English Sparrow in America. The food of the Java Sparrow is rice, and great flocks molest

the rice-fields of the eastern planter, notwithstanding all the "scare-sparrows" or other devices that can be thought of to keep him away. He is there



JAVA SPARROW.

known as the Rice-bird. The bird's food in confinement is unhulled rice with a slight mixture of canary-seed. He may be separately confined if desired, but he is a handsome addition to the aviary.

FINCHES AND NUNS. No aviary collection is complete without at least a few specimens of these neat, diminutive birds. The countries of the Orient furnish them to the world's bird-markets. The number of varieties is very great, and only the best known species can be mentioned in this connection. Considering the warm countries in which they are bred, these birds are reasonably

hardy, living some eight or ten years if properly acclimated, and being subject to few diseases. Some few are quite good songsters, but most of the birds are desirable on account of the beauty of their plumage, diminutive size, and quaint habits. Two or three dozen are often confined in a single cage, in which they may frequently be seen all perched upon one stick and warbling their sweet ditties in regular succession. In size these birds vary from two to four and a half inches in length; in a few instances an unusually long tail increases the total length to some ten or twelve inches.



DIAMOND SPARROW. CUT-THROAT FINCH.

The *Paradise Whydah* is a bird of the latter class, its long, graceful tail making it a beautiful addition to any collection. It is in the breeding season that the tail grows to its greatest length, and the plumage of the bird assumes the richest hues.

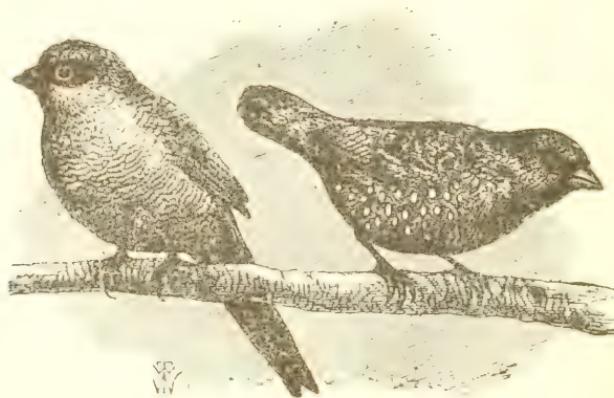
A showy bird for the aviary is the *Diamond Sparrow*, the length of which is about three and a half inches. He is imported from Australia, becomes readily acclimated, and is quite hardy.

The *Cordon Blue Finch* is a good songster, and a much admired bird for his beauty. He is a native of Africa. Brownish-gray is the color of the back, and a pale sky-blue that of the face, throat, chest and tail, the male differing from the female by having a crimson patch on each cheek. This bird is very fond of his mate, and gives utterance to distressful cries when separated from her. His sweetest songs are sung only for her: he delights to pour forth melody after melody for her sole pleasure, while she, with reciprocating satisfaction, hearkens attentively. If the bird happens upon some piece of wire, straw, or similar object, he will seize it in his beak, fly to his mate, and begin his most charming utterances.

The *Common Wachill Finch* is a pleasing aviary addition, and one of the best known of its class. The male and female are alike in colors, fond of each other's society, and given to pluming each other's feathers with their tiny beaks. The male, in singing, spreads his feathers fan-shape, and with ecstatic zeal endeavors to win the approval of his "better-half." The pair will breed in confinement, and will rear their young without much difficulty.

The *St. Helena Waxbill* is larger than the preceding species, but while quite similar in color, his appearance is somewhat handsomer. The beak is coral-red, with a red line extending through the eyes. The body color is a delicate brown, a roseate hue being prominent over the abdomen. He is a conspicuous beauty among many of his kind, and a sociable bird at all times.

The *Zebra Finch* readily breeds in confinement. He is one of the smallest as well as one of the handsomest of his kind. The prevailing color of this bird is a delicate gray, marked by spots and bands of chestnut and black. His song is pleasing, but not so prolonged as that of some of his fellows.



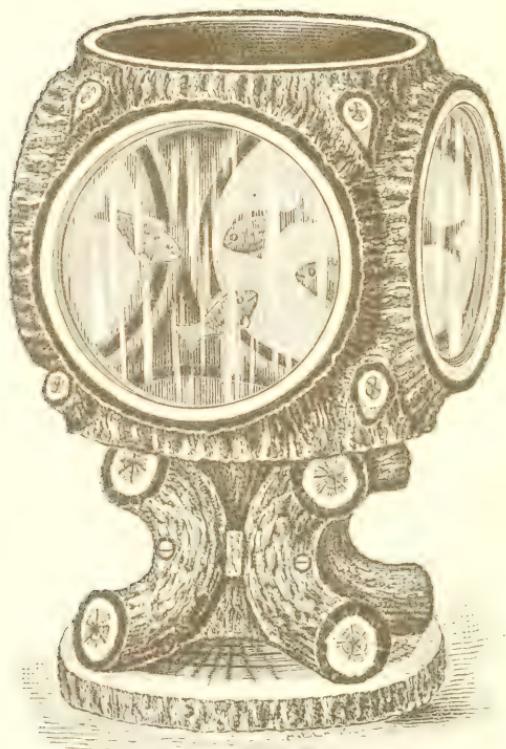
ST. HELENA WAXBILL.

AVADAVAT.

The *Avadavat* is one of the smallest of his kind, and one of the most interesting and desirable in the aviary. The bird is imported from India, and large numbers find their way to this country yearly.

The *Magpie* and the *Cut-throat* Finches, both from Africa, are pretty songsters, and quite quaint in their ways. The latter gets his name because of the peculiar red band across the throat. Both of these birds have a peculiar trait of executing a song and dance at certain favorable moments, when the whole assemblage is quiet, and it occurs to one that a spirit moves him.

The *Nuns* are a class of birds very small and quite similar to the Finches. They are imported chiefly from Japan, being known as the *Japanese Nuns* or *Manakins*. The Japanese are said to be expert bird-breeders, in consequence of which these small birds display the marks of high breeding, just as the Canaries do that are bred in Germany. The family of Nuns, like the Finches, embrace many varieties, characterized by handsome colors and shadings. They form a very interesting class of birds, very desirable for the collector's aviary. All varieties will, under proper treatment, breed in confinement. They should have food and care quite similar to that given to a Canary, the Canary being itself a Finch. The treatment in disease is also similar. The best food for the birds is a mixture of millet and canary-seed, two parts of the former to one of the latter. Lettuce and ripe apple should be given occasionally, and fresh water furnished for drinking and bathing.



RUSTIC AQUARIUM.

THE AQUARIUM.

CHAPTER X.

CONSTRUCTION OF AN AQUARIUM.

SINCE home-life must constitute for many the greater part of their earthly existence, it is natural and proper that all reasonable efforts be made to embellish the home with objects of interest and pleasure. Among the many ornaments from which one may choose for this purpose, what can give rise to more real enjoyment than the aquarium! How many hours can be passed in delightfully contemplating the actions of its finny inhabitants, busying themselves in the regulation of their household affairs so different in character from those of the terrestrial objects about us! It opens up to us a world of study that all the wonderful instruments of science cannot reveal or fathom, placing before our eyes the mysteries and the phenomena of the liquid world. Young and old can glory in its revelations; placed in the invalid's chamber it cannot fail of being a source of continual interest and never-failing delight.

CONSTRUCTIVE PRINCIPLES. The aquarium scientifically constructed is of comparatively recent origin. There must exist in it those mutual relations between plant and animal life that Nature herself has established for their growth and sustenance. All animals must inhale oxygen gas for the purification of the blood and the heat of the body. Atmospheric air contains this gas mixed with another called nitrogen, and respiration on the part of animals brings these elements into active relationship with the blood of the body. In the laboratory of the lungs, the corpuscles of the blood seize upon the oxygen they desire and give back a quantity of carbonic acid gas, the result of combustion that has taken place in the capillaries of the body. Now this latter gas is a poison to all animal objects, whether they exist in the air or in the water. Wherever it accumulates in considerable quantities it is certain to cause speedy annihilation of life. By a wise regulation of Nature the very gas that is so destructive to the existence of animal life possesses for all vegetation life-giving properties. That which is given forth as refuse by the animal and of which it must not partake again upon penalty of destruction, is the very food that is to feed and sustain the plant, and that which the plant throws off as refuse is the precious oxygen which the

animal so greedily devours. Thus has the Creator established a means of purification which operates at all times for the mutual support of the life of plant and animal. Fish, as well as the other objects of the animal creation, must have a constant supply of pure air, and while it is true that they need less of this as a rule than some other animals, the element in which they exist must contain certain proportions of that gaseous fluid. Bearing in mind such fundamental principles of nature, an aquarium may be fitted out and stocked with its funny occupants so that the trouble of keeping it may be reduced to a minimum. The water of such an aquarium would never need changing, although the amount lost by evaporation would need to be occasionally replaced.

FISH-GLOBES. By the use of the ordinary fish-globes such an adjustment cannot be well secured. They are too small to permit the introduction of aquatic plants, consequently a frequent change of water is absolutely necessary for the preservation of the fish. How often such a change will have to be made will depend upon several circumstances—the purity and heat of the atmosphere, the quantity of the water, and the number of the fish inhabiting it. In a



pure atmosphere of moderate temperature, two gallons of water will support three or four Gold-fish for several days. Whenever fish are observed coming to the top frequently for air, it is a sure indication that the water should be changed. The higher the temperature, the more impure the atmosphere, the larger the fish, and the greater their number, all will determine the length of



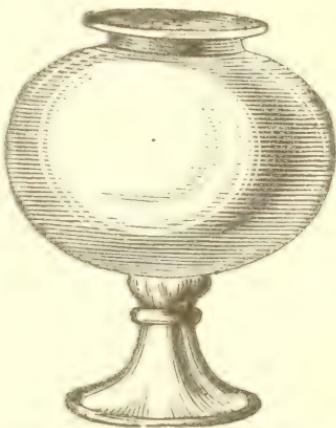
time that water may be retained. Many change the water in globes once a day regularly, usually choosing the evening for that purpose. The process is very simple: Carry the globe by the rim firmly, holding the

same between the forefingers and thumbs; place the spigot of the hydrant well down into the globe; let the water run slowly and overflow for a minute or two, then carefully replace the globe. A siphon may be used to draw out the stale water, which is immediately replaced by fresh. A rubber tube can be employed for this purpose.

Fish globes are subject to a number of objections which cannot be urged against the properly prepared tank. In the first place, they are very subject to breakage, especially if their proportions are adequate for a considerable number of fish.

One never knows at what moment some unlucky action may cause a globe and its contents to meet destruction upon the carpeted floor. Again, the spherical shape of a globe causes a distorted view of the fish as they swim majestically about in their aqueous element, thus defeating one of the most interesting features of the aquarium—the proper inspection of the movements of the fish as they glide hither and thither.

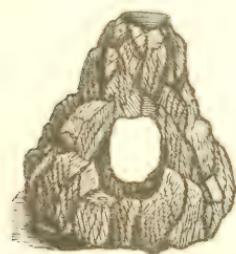
Globes, however, are attractive ornaments, and if one does not mind the slight trouble of changing the water frequently, and will exercise great care to prevent their demolition, they will serve very well.



TANKS. To any one who really desires to possess an aquarium, the tank is recommended as the only satisfactory receptacle for the water. Tanks of all sizes and shapes are to be found in well-equipped stores where fish are to be obtained. The best form is the rectangular, since it will be found not only the most elegant, but likewise the strongest and safest. It affords the best opportunities for observing the curious habits of its finny

occupants, and allows the most picturesque adjustment of aquatic scenery.

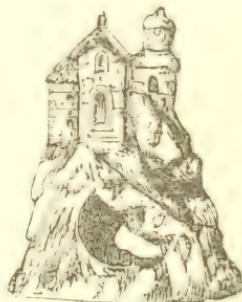
Much ingenuity may be displayed in fitting out the aquarium, abundant opportunities being afforded to exhibit one's skill and good taste in this matter. Do not, in the first place, overstock the space with sundry embellishments. A few simple pieces of rock-work will amply suffice, if quietly and naturally placed. Remember that



every piece of redundant scenery lessens the space available for animal and vegetable life. There can now be obtained in the stores many forms of beautiful grottoes and rocky representations that set off the tank to a good advantage. Beware

of using sea-shells and coral in fresh water aquaria, since they are not only out of place, but the lime and other substances of which they are composed impregnate the water to a considerable extent, much to the injury of the fish. Let your aim be to make your scenery as suggestive of fresh water life as possible. Castles do not exist at the bottoms of lakes or rivers, nor is coral found in such places. It will be found expedient to fasten all rock-work to its place, otherwise an unexpected jar might cause it to topple over, much to the detriment, possibly, of the finny pets, if not to the sides of

the tank. A cement purposely prepared for this work can be obtained. A good aquarium cement may be made by mixing one part by measure of litharge, one part plaster of Paris, one part fine beach sand, and one-third part of fine powdered resin. Keep the mixture dry in a bottle, and when wanted for use make it into a putty by adding good, boiled linseed-oil. It will stand in either salt or fresh water. The character of all substances introduced into the aquarium should be closely questioned, inasmuch as the water might become impregnated from them with deleterious matter that would end the existence of all plant and animal life. After the work of cementing the rock-work has been satisfactorily completed, water may be introduced for a few days, to absorb the impurities that would come from the cement or rock-work. Seum will arise on the water, which should be replaced with fresh until it is found that the liquid remains pure. After a thorough soaking demonstrates that no more effluvia is likely to arise, the bed of the aquarium may be placed and the plant-life introduced. Procure a quantity of clean, river sand, together with some pretty pebbles, and after washing these until they are thor-



oughly freed from dirt, distribute them evenly over the bottom of the tank to a depth of nearly an inch.

PLANTS FOR AN AQUARIUM. Plants appropriate for the fresh-water aquarium may be obtained in abundance from the ponds and brooks of our country. A stroll by any brookside, or a visit to any marshy spot, will reveal to eager eyes some of the choicest of aquatic plants. A small aquarium will not need a profusion of plants any more than it needs an over-stock of rocks. A few well-selected plants will suffice, and, indeed, will present a better appearance than would many. It will be found necessary to fix the roots of most aquatic plants, and this may be done in a variety of ways. A ball of wet clay may be made to inclose the roots, and this deposited in its proper place then covered snugly with sand or gravel. Or the plants may be rooted in saucers or other shallow dishes, that may be hidden from view by the sand in the bed of the tank. Many of the grottoes and other imitation rock-work to be bought in the stores for use in aquaria, have at their bases a number of excavations in which plants may be rooted. Some plants grow in the aquarium with wonderful rapidity, so that it will be found necessary to prune them frequently to prevent them monopolizing the whole

space of the tank. Water-weed, which grows prolifically in many parts of the country, is one of this sort. If a piece be cut off and thrown carelessly into a tank, it will soon fill the entire space it left undisturbed. It is of a bright green color, and particularly attractive. Water-cress is a well-known fresh water plant that may be appropriately transferred to the aquarium. There is a kind of crowfoot growing in water that may be obtained in the spring months. This may be given a home in the tank. Arrowhead is a common plant with white flowers with golden centers and leaves shaped like arrow points. Water millfoil and starwort, common in ponds in many sections, make beautiful aquarium growers. The plants that grow rooted in watery beds, but expand their foliage above the surface, are not as desirable as those whose leaves are nearly or wholly submerged. The reasons for this are obvious, if the preceding facts concerning the respiration of plants are borne in mind. In the former case the oxygen that the plant exhales is liberated in open air, while in the latter it is bound to permeate the water. Again, in the former case the carbonic acid gas which the plant needs is taken from the air, and that which exists in the water remains unused, much to the detriment of the animal life of the aquarium.

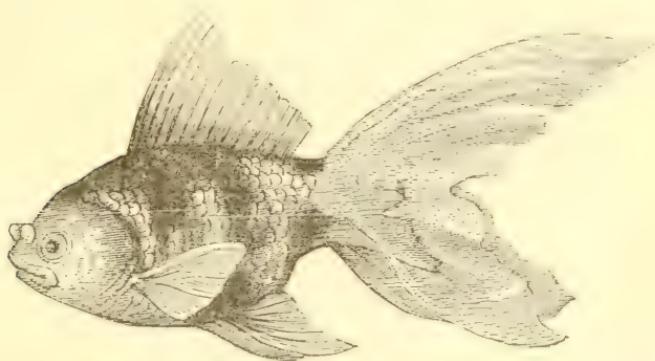
Care should be taken to remove all decaying

leaves and branches of fresh water plants, as the gases arising from decay would pollute the water. Likewise, plants should not be permitted to grow without stint. Keep them pruned and within bounds. Too much oxygen, as a profusion of plant-life would be sure to produce, would be as bad as too little. The purpose of the presence of plants is that they shall consume the impure gas that the fish exhale, and give out in turn the oxygen that the fish require, so that there may be a perfectly mutual balance between plant-life and animal-life.

WATER FOR THE AQUARIUM. After the plants have been secured and arranged according to taste, the water may be put into the tank. Soft spring water is the best for this purpose, but river or clean cistern water will answer the purpose admirably. Water strongly impregnated with mineral substances, such as iron, sulphur, lime, etc., while they may or may not be good for the human frame, are not suitable for an aquarium, and should never be used. Such waters, when boiled in order to free them from such objectionable substances, are still unserviceable, as the gases of the water are driven off by the heat, and must be replaced before the liquid is capable of sustaining either fish or plants.

After placing the water in the tank, let your

aquarium stand for a week or two, in order to give the plants a chance to begin growing and to get into a thrifty condition, before adding the fish. A couple of pond-snails may be put in at once. They will act as scavengers, by consuming decaying vegetation and the conervae or greenish weed that discolors at times the surface of the glass. Such snails may be easily found by inspecting streams of shallow water or the recesses of ponds.



JAPANESE FAN-TAIL.

THE FISH. The selection of proper fish for a small aquarium would not be a difficult matter for many. Gold-fish are the universal favorites, and their varieties Silver and Pearl. They are a beautiful species of carp, originally imported from Chinese waters, but are now very extensively bred at home. These fish have, by long attention to breeding, been made to exhibit many varieties of shape and color. Some have plain, straight tails,

these being the commonest sort and the cheapest. Some are known as Fan-tails, because of the three-lobed and spreading character of the tail, and others are called Gorgeous-tails, on account of the length and wavy appearance of the caudal appendage. A fish very much prized for its beauty is the Paradise fish. In color the Gold-fish differ among themselves almost as widely as they do in shape. Some are pearly white marked with red blotches, like Chinese hieroglyphics; others have black spots as well as red. Gold-fish are hardy, and with proper care will live for years with little attention.

Our own fresh water streams will furnish many desirable specimens for the aquarium. The *Minnow* is well known to every school-boy, and is so common that it can be possessed with little trouble. This fish is not only a pretty one, but bears the additional reputation of being easily tamed. He can be taught to come up and take food from the hand, and to demonstrate a fondness for his benefactor.

The *Stickleback* and *Gudgeon* are diminutive fish found plentifully in some of our fresh-water streams. The former, however, is quarrelsome and hardly a fit companion for well-mannered fish.

There are many other varieties which may be obtained from fresh water streams at little expense.

They will be found to be hardy, and to bear their confinement well. They should be taken by means of a net, and not by the hook, if the former means is possible. Care must be taken that fish are not introduced that will prey upon their fellows. Many do this, and had better be relegated to the shady side of nowhere for their mischievous ways.

A small turtle, a frog, or a diminutive eel, will add variety to the collection and will do no harm to the other inmates. If you have left your rock-work to project a little above the surface of the water, these specimens will often delight to crawl up out of the water and sun themselves upon the rocks.

It is necessary, at this point, to warn the enthusiast against placing too many fish in the same receptacle. A given quantity of water will not support an unlimited number of inhabitants, so that if the proper proportion is overdone disaster will be sure to follow. Two fish not exceeding three inches in length may thrive in one gallon of water; if the fish are smaller, the same quantity of water may accommodate more. Do not fill the tank completely full of water, as the fish might possibly jump out, and the turtles, lizards, frogs, etc., might take an unexpected leave of absence. It is best not to fill the tank more than four-fifths full of water, unless there is a screen-cover to the aquarium.

FEEDING THE FISH. Food is as necessary to fish as it is to other animals, but many persons are apt to over-feed their pets, or to give substances that are injurious. Pastry of all kinds, bread, crackers, etc., are wholly unfit for fish, and should never be given them. Such food substances are apt to clog the gills of the fish and thus choke them. A prepared food is sold by all dealers in aquaria which is well adapted for this purpose. This should be given, a little each morning, taking care not to furnish more than the fish will eat at one time, as that which remains is likely to pollute the water. Feed but little at a time, and when the fish seem to have enough, put your food aside and give nothing more until the next day. Some do not feed the fish but once or twice a week. By some fish-breeders, ants' eggs, such as have been recommended for birds, are regarded as the only proper food for fish in the aquarium. Three or four eggs may be allowed to each fish daily. These are relished by the fish, and snapped up with avidity.

For turtles, eels, and brook fish generally, worms are an excellent food. It is better to cut them into small pieces before feeding. Worms may be kept through winter by placing a sufficient quantity of them in a small box, and placing the same where the frost will not reach it. Raw beef is a good substitute if worms cannot be had. It may

be suspended so that the animals may nibble at it at pleasure. Dried beef may also be used, cut into fragments and fed just as it is devoured. Do not kill with kindness. It is easier to overdo the matter of feeding fish than to underdo it. See to it in particular that food that is uneaten is not left in the water to pollute it by decomposition.

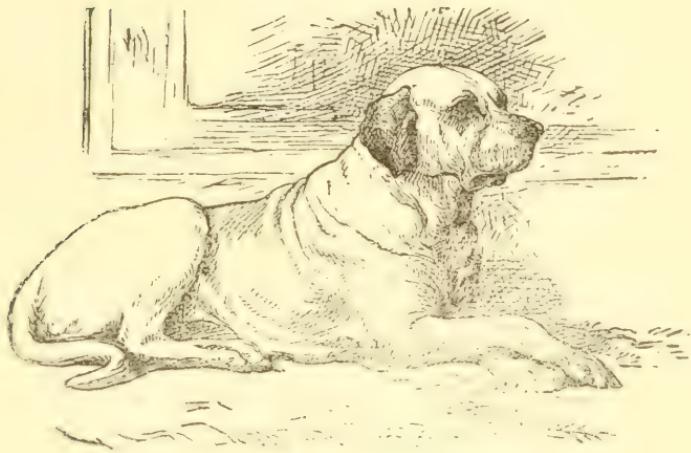
PLACING AN AQUARIUM. A question often asked is where to place an aquarium to the best advantage, and in furnishing an answer the doctors somewhat disagree. All vegetable and animal life need sunshine, but too much of it will not be suitable for our present purpose. An east window is sometimes recommended as the best aspect, for there a few hours' sunshine each day at a time when the air is mild and genial will amply suffice for the proper growth of plants and fish. A west window is good, however, and by some preferred as the best site. A south window is not so good, as the sunlight is there too strong and heating. If it becomes necessary to use such an aspect, it is better to protect the exposed side of the aquarium by means of a baize cloth. In too much sunlight plants give off a redundant quantity of oxygen, and a greenish mucus will make its appearance upon the sides of the glass, obstructing the view of the observer as well as giving an idea of un-

cleanliness. This is known as *conferrae*, a vegetable growth which your snails will aid in destroying if it is not over-abundant. A north window is not so suitable for the aquarium, as too little light is received from that source; but it will do if a better site is not accessible.

The temperature at which the water of an aquarium is kept is an important factor in the health of the fish. This should not, if it is possible to avoid it, exceed sixty-five degrees, nor should it sink much below forty-five. A higher temperature than the above is weakening, and if excessive is very apt to cause the death of the fish.

When once determined upon, the aspect should remain unchanged. At long intervals the aquarium will need cleaning. The fish may be removed by using shallow nets, and placed in a temporary receptacle. Never catch fish with the hand, as they are apt to be crushed enough to injure them by so doing. After a thorough renovating replace the water. The same water will do, or fresh spring water may be substituted. The tank may then be returned to its customary place and left undisturbed for another six months or a year. Water lost by evaporation may be replaced whenever it is deemed necessary.

PET QUADRUPEDS.



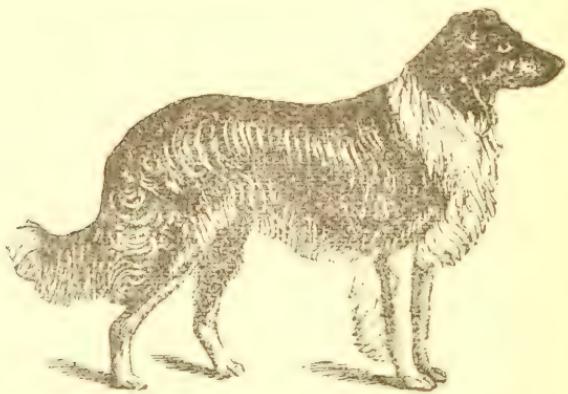
CHAPTER XI.

I.—Dogs.

“**M**AN'S unselfish friend” is an epithet that the dog has not unworthily won. Although there are some persons who affect to despise his qualities, the fact remains that no animal forms such attachments for man, and continues even to extremities so faithful to his trusts as does the dog. It is said that when Scotland's illustrious queen was led to the scaffold she was followed by her pet dog, which watched her execution, and refused afterward to leave her coffin until it was buried. Many a canine friend has

watched faithfully at the bedside of a sick master, when human comforters have turned unsympathetically away.

In intelligence what animal can excel the dog? He has been trained to perform the most remarkable tricks, and, indeed, has often excelled his instruction by the exercise of an ingenuity that seemed almost human. "If I had my choice," once said a fancier, "between educating a dull boy and a smart dog, I would choose the latter." It would seem, indeed, from the instances that are on record of the remarkable sagacity of canines, that a limit hardly exists at which a dog's capacities fail.



COLLIE.

KENNELS AND BEDS. Every dog, whether large or small, should have certain quarters which he may regard as his own. If kept out of doors, as

large dogs should certainly be, they should always be provided with a warm and dry kennel of comfortable proportions. A strong, hard-wood barrel, if first properly cleaned, will make a good kennel. Do not cut out the end, as is often done, but leaving both ends intact, cut out an opening in the side near one end, making the hole large enough to afford easy entrance and exit to the dog. If you should desire a better kennel, have your carpenter construct a commodious structure, and be sure to have the opening in the side near one end. The interior is thus freer from draughts, and will be warmer and dryer. Have the back constructed so that it may be opened when it becomes necessary to clean the kennel. The space designed for the dog's bed should be slightly elevated, with a slight slope. It should be plentifully provided with clean straw or fine shavings. At least once a week the dog's kennel should be scrubbed with hot water and soda, and the bedding renewed. Cleanliness in all matters pertaining to the dog will not only add to his comfort, but is an absolute necessity for his healthful existence. Fleas, ticks and other parasites are very apt to infest kennels. It will be found easier to prevent their appearance than to destroy them when they have once infested the dog's quarters. Once a day the quarters should be swept clean, and at least once a week a thorough

scrubbing with hot water and soda should be given them. Some good disinfectant should then be used.

If a dog is allowed to remain in the house during the day, he should certainly be permitted to stay there through the night. The policy of turning out of doors for the night an animal, whether dog or cat, is not only wrong, but cruel. When accustomed to the warmth of the house during the day, he should not be compelled to withstand the chill of the night, the time when shelter is the most needed. Let a warm, cozy place be selected for the house-dog's quarters, and a rug or strip of carpet provided for his bed. He should be taught to know that it is there he is expected to pass the night, and when the command is given, "Go to bed," he should be obliged to seek his quarters and to remain there until morning. Some dogs, such as the delicate Toys, require very cosy beds and covers, and such they will learn to use with great nicety. Don't send your dog into the cellar to pass the night, and don't fix his quarters in a cold, draughty place, or behind a door. Treat him humanly or else give him away.

FOOD AND EXERCISE. Usually dogs, and house-dogs in particular, suffer from a lack of proper exercise, and the feeding of substances that would be

proper under some conditions, but wholly unfit under others. The dog is a carnivorous animal, and flesh would naturally constitute the major part of his diet. Deficient exercise, however, modifies the nature of the diet ; meat no longer should be the bulk of the animal's food, but should be replaced by vegetables of a light, digestible nature. Excessive exercise, on the other hand, such as is required of hunting dogs at work in the field, calls for a generous feeding. Too much meat, either raw or cooked, can hardly be fed at such a time, but the same diet under conditions of rest or idleness would be wholly unfit and injurious.



Puppies should be taught to lap milk when about three weeks old, as this relieves the mother of the great strain to furnish sustenance, particularly if the number of nursing puppies is large. Cow's milk for this purpose should be heated to scalding point, then slightly sweetened, and fed when it has cooled down to the temperature of

the dam's. If the puppy thrives on this diet, worms in the stomach are apt to thrive also, so that a diet of soup thickened with stale bread may be gradually substituted for the milk. Weaning may be accomplished at the age of six weeks, if the puppies are in good health. Four meals a day will amply suffice for them at this age, and these should consist chiefly of the soup diet, together with well-boiled meat and vegetables. Puppies should not be permitted to gorge, as they are apt to do if left to eat all that they desire. At the age of six months three meals a day will be enough, and when a year old one light meal in the morning and a generous feeding in the evening will be found most conducive to health and strength. A large bone given to a dog to gnaw upon, is a good means of keeping his teeth clean and of furnishing bone particles, which are needed for the nourishment of the osseous system. Irregular supplies of food are injurious, and sweetmeats usually work mischief. Raw meat is apt to cause ferocity of temper, besides giving to the animal an offensive smell. The presence of cereal and vegetable substances in the dog's diet will be found, in most cases, to be preferable to an over-abundance of meat, this being true more particularly in regard to household pets getting very deficient exercise.

Dog-biscuits have come into favor during the

past few years, and are now extensively used by fanciers, whether as a matter of convenience or preference it would be difficult to tell. They are supposed to consist of such materials as are best adapted for feeding: most kinds are no doubt reliable, and may be recommended. There is no question in regard to their convenience, but that they are better than a diet prepared at home is very doubtful. In addition to such food supplies as have just been mentioned, fresh drinking water should be at all times accessible. This is very essential to a dog, as he requires drink frequently through the day.

THE BATH. When properly kept, a house-dog should have a bath as often at least as once in two weeks, not only for the health of the animal, but for eradicating any offensive smell characteristic of canines, and for the prevention or destruction of parasites. The morning is the proper time for the dog's bath; luke-warm water should be used, together with a plentiful application of soap. Some of the excellent dog-soaps in the market should be employed rather than the common sorts, which contain strong alkali. Soaps containing carbolic acid and other poisonous substances should be avoided, since they are injurious to both the skin and the hair. After bathing and rinsing with clear water,

the hair should be rubbed dry and brushed, care being taken to prevent delicately nurtured dogs from taking cold. Small dogs should be placed in the tub for their bath, large dogs beside it.

DISEASES OF Dogs. Under proper conditions the dog is rarely afflicted by illness. Cleanliness in all matters pertaining to the animal's quarters, and regularity in feeding wholesome food, will conduce largely to health. Some diseases result from contagion, but even these are hardly to be feared if the general conditions of the dog are good. Infectious diseases usually attack emaciated animals, hence the best safe-guard against them is a well-nourished system. In regard to remedies to be given to a dog, it may be stated that a medium large dog, as a Setter or Collie, will require as large a dose of medicine as a man, larger dogs more, and smaller dogs less in proportion to their size.

Distemper is one of the severest troubles to which a dog is ever subject. It usually afflicts young dogs under a year old, but old dogs are not exempt. A dog may even be attacked by distemper a second time. This illness is said to result from poison afloat in the blood of the animal, and the symptoms are not unsimilar to typhus in man. The first appearance of the disease is in the watery discharges from the eyes and nostrils, by which means

nature is seeking to throw off the poison afflicting the body. A fresh cold often exhibits the same symptoms, but is not accompanied by the rapid emaciation that is sure to follow if the trouble is distemper. A loss of appetite, sneezing, a cough, with frequent efforts to vomit, shivering, and a feverish desire to drink, are symptoms nearly always present. The respiration becomes labored, fits sometimes occur, and the bowels show great irregularity. It is said on good authority that no specific is known for the absolute cure of distemper. The disease has its course to run, and good nursing will prove a most effectual aid to recovery. Remedies may and should be given that give temporary relief. Keep the patient in a warm, dry place, giving him an easy bed to rest upon. Give light, nourishing food, and place within ready access a pail of fresh water, from which the animal can lap at his pleasure. If a dog refuses his customary food, he must be tempted with substantial dainties; and if these remain uneaten, an egg may be beaten up in port wine and the animal forced to swallow it. Beef-tea and fresh milk are usually relished. If possible, consult a skilled veterinary in regard to medicines, but if that is impossible the remedies of the stores may be administered with good effect.

Fits, if not the result of distemper, are usually due to indigestion or the presence of worms in the

stomach or intestines. This is a common ailment, and may be best remedied by seeking out and removing the cause. Keep the dog quiet, and give plain food at proper intervals. A dose of castor-oil may be given once or twice a week, and one to five grains of sulphate of zinc in a few grains of the extract of dandelion twice a day.

Mange is due to parasites that live and multiply in the skin. There are two distinct kinds of this disease, which are readily transmitted from one animal to another, and sometimes to man himself. There are other skin diseases sometimes mistaken for mange, which are not contagious, and require treatment different from that of the former trouble. Wash the parts well that are afflicted, and apply some good mercurial or sulphur ointment. The animal may be given plenty of sulphur in his milk or food, or Fowler's solution may be given in doses of from one-half to six drops, according to the weight of the dog.

Worms in a dog are of different sorts. Puppies are often afflicted with them, and death is sometimes due to their presence, even when they are wholly unexpected to be the source of ailment. Round worms infest the stomach and small intestines. These cause much irritation of the alimentary canal, and give rise to many disorders. A dog suffering with worms becomes emaciated without having fever, is alternately afflicted with constipa-

tion and diarrhoea, and has at most times a ravenous appetite. The abdomen often appears bloated, while other parts of the body are thin. Tape-worms and maw-worms, said by some authorities to be much the same, are difficult to eradicate. Areca-nut is the commonest remedy for tape-worm; when freshly ground it is given in doses of two grains for every pound the dog weighs, the dose to be repeated in four days. Santonine is given for round worms, from one-third to three grains being a dose. After the symptoms are abated give cod-liver oil, and occasionally a mild dose of castor-oil, and at the same time a generous diet.

III.—CATS.

The cat has been called the “perfect pet,” and not without justice. Pussy has always had her friends and her foes; her ardent admirers and her extreme detestors. Faults she has, no doubt, but the lack of an affectionate regard for the person who befriends her is not, as has been alleged, one of them. Though less demonstrative than the dog, the quiet rubbing of her fur against one’s person is no less indicative of supreme regard.

The cat is usually cleanly in her habits. She may be trained to act discreetly in the house, and to observe her proper position at the fireside. Do not drive her out of the house to spend the night, if during the day she is permitted to remain in.

A basket may be placed for her bed, and this she should be taught to occupy during the night. Feed your cat well; it is a mistaken notion that permits her to remain hungry with the idea that she will make a better mouser. Hunger will induce her to steal what is within reach rather than prompt her to seek for what is inaccessible. Two

good meals a day are enough for Pussy; let meat and milk be a part of her *menu* once each day. Oatmeal porridge and milk makes a good dish, and potatoes or other well-boiled vegetables are often relished. Fresh water should be always accessible.



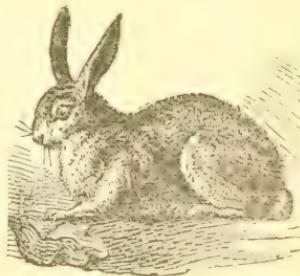
The indiscriminate feeding of a cat or any other pet is a mistake; regularity in feeding is more conducive to health. Begging for food on the part of any pet is a disagreeable habit that may be broken by resolutely refusing the petitions for tid-bits so prettily offered at the family meal. Kittens should be supplied with food more frequently than the grown cat. Three or four good meals a day are a necessity. Never take all of a cat's kittens from her at once; one should be left for her to raise. Never keep a number of kittens for which you are unable to supply good homes. Drowning kittens is a barbarous means of getting rid of sur-

plus pets; chloroforming is, by all means, to be preferred. Place the kittens in a close vessel, together with a sponge saturated with chloroform, and death will soon ensue that is unconscious and painless. Cats that are infirm or diseased may be put to sleep by getting them to drink some syrup of chloral placed in their water. They may then be mercifully chloroformed to death.

"If a cat is really ill, he should be treated as a human patient is treated, kept quiet and warm, and have medicine suited to his disorder. The most convenient and easily administered is the homeopathic. To insure the swallowing of doses having an unfamiliar or unpleasant taste, requires tact and some labor. The animal must be wrapped up closely, so that he cannot use his claws to protect himself from what he considers an outrage, his mouth opened, the medicine poured down, and his head held up till the dose is swallowed."—OLIVE THORNE MILLER.

III.—RABBITS AND GUINEA-PIGS.

Among the most innocent and engaging quadrupeds capable of domestication are the Rabbit and Guinea-pig. Both thrive well in confinement if strict cleanliness is at all times observed. These pets are very similar in habits and disposition, the latter, notwithstanding its name, being in no wise related to the beast that is said to leave a cloverfield so reluctantly. Feed plentifully fresh roots and vegetables, and keep in warm, dry hutches located in an outhouse. Guinea-pigs are born with their eyes



open, well-coated, three to five at a birth. Rabbits are born blind and hairless, some two weeks clapping before they see the light. The young should be weaned at the age of six weeks, only one being taken from the doe at a time. Give them warm quarters plentifully provided with nice hay, and feed soft food for a time. Green food should be given sparingly to the young. Crushed oats and fresh roots, soaked peas or beans, and boiled potatoes are all excellent. Rabbits need but little to drink as they get sufficient liquids from the green food they consume, but when such food is scarce, a little milk or milk and water may be furnished with advantage. Feed twice a day. Be sure that their food is fresh and that their quarters are warm and clean.

IV.—SQUIRRELS.

Squirrels become very tame and are pretty, engaging little fellows. Their food is principally nuts, acorns and cereals. Bread and milk should be fed in addition once a day. There should be provided for them a regular squirrel cage consisting of three apartments,—a sleeping chamber, a feeding room, and a revolving wheel. The latter they will delight to turn at times, much to the delight of children, and of adults as well. Keep the apartments scrupulously clean, as by this means only can insect pests be avoided.

INDEX.

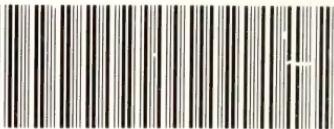
PAGE.	PAGE.
Accidents	55
American Songsters	72
Aquarium	129
" Fish for	139
" Plants for	136
" Situating an	143
" Water for	138
Arrowhead	137
Asthma in birds	50
Avadavat	126
Aviary	118
Bird-breeding in America	28
Bird-lime	12
Bird-pests	30
Black-cap, European	69
Bobolink	76
Brazilian Cardinal	80
Breeding-cages	40
Brown Thrasher	86
Bullfinch	61
Cages	13
" Cleaning brass	13
Canary	22
" Breeding of	38
" Care of	29
" Diseases of	48
" Food for	33
" Insects on	30
" Training of	18
" Belgian	24
" English	25
" German	22
Canary-seed	15
Cat-bird	88
Cats	155
Cayenne pepper	34
Chaffinch	63
Cockatoos	111
Confervae	144
Convulsions	53
Corvidae	112
Costiveness in birds	51
Cramps in birds	54
Crow	114
Crowfoot	137
Diamond Sparrow	125
Diarrhea in birds	52
Diseases of birds	48
Distemper in dogs	152
Dog-biscuits	150
Dogs	145
" Diseases of	152
" Food for	148
" Kennels and Beds	146
Egg-Eating birds	45
Egg-bound Canary	44
Egg and cracker mixture	33
European Songsters	57
Finches, African	123
" Common Wax-bill	125
" Cordon blue	125
" Cutthroat	127
" Magpie	127
" St. Helena	126
" Zebra	126
Fish, feeding of	142
Fish for aquarium	139
Fish-globes	131
Food for birds	14
Golden Robin	91
Goldfinch, American	73
" English	58
Gold fish	139
Gravel	34
Grosbeak, Cardinal	78
" Rose-breasted	81
Gudgeon	140
Guinea-pigs	157
Hemp-seed	15
Hybrids	46
Indigo Bunting	74
Inflammation of intestines	54
Jackdaws	115
Japanese Robin	121
Java Sparrow	122
Lameness in birds	54
Linnet, Red	60
Lories	111
Loss of voice	52
Love-birds	109
Macaw, Blue and Yellow	110
" Scarlet	110
Magpie	116
Manakins	127
Mange in dogs	154

INDEX.

PAGE.	PAGE.		
Mating-fever	38	Rape-seed	15
Maw-seed	16	Ravens	113
Meal.worms	18	Rooks	115
Millet-seed	15	Scarlet Tanager	89
Minnows	140	Silver-fish	139
Mockingbird	82	Skylark	67
Mockingbird food	17	Snails	139
Moulting period	36	Squirrels	158
Nightingale	65	Starling	70
Nonpareil	75	Starwort	137
Nuns, Japanese	127	Stickleback	140
Oriole, Baltimore	91	Sturnidae	95
" Orchard	92	Sunflower-seed	16
Padda	16	Talking Mlnor	95
Paradise Whydah	124	Taming birds	18
Paroquets	107	Tank for aquarium	133
Parrots	95	Trapping birds	11
" Amazon	105	Troopial	93
" Cuban	106	T stands	110
" Double-Yellowhead	104	Turtles	141
" Single	105	Unhulled rice	16
" Dwarf	106	Water for aquarium	138
" Gray	103	Water for birds	31
Perches for birds	13	Water cress	137
Poppy-seed	16	Water millfoil	137
Psittacidae	95	Water weed	137
Puppies, feeding	149	Wood Thrush	87
Rabbits	157	Worms in dogs	154



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